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MOBILE SOURCE EMISSION
INVENTORY SYSTEM
USER'S MANUAL
AND
PROGRAMMER'S GUIDE

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INTRODUCTION

TRW has recently completed a research effort for the California Air Resources Board to develop a methodology for the estimation of emissions from mobile sources (light and heavy duty vehicles) in the South Coast Air Basin^{1&2}. A computerized emissions model incorporating the methodology derived during the research effort is now operational. This report is a comprehensive guide for the operation of the model.

The procedure used in the model basically consists of obtaining vehicle miles traveled for particular locations (grid square, freeway segment, etc.) and time periods from a data base and combining them with an appropriate emission factor. The emission factor is a quantitative estimate of the rate at which the pollutant is released to the atmosphere per vehicle mile traveled. The emission factor is obtained for conditions at the particular location and time period. Factors considered in the derivation of each emission factor are road type, average speed, ambient temperature, vehicle model year distribution and hot/cold vehicle operation mix.

The computer model provides a flexible and efficient tool capable of evaluating a wide range of vehicle emission control alternatives and other dynamic conditions (e.g., retrofit programs, fuel scarcity, change in vehicle control systems, population and vehicle mix modifications and road configurations). This capability is provided by structuring the computer software to be input driven, i.e., the problem is fully specified via input data. Thus, the spatial and temporal resolution, as well as the mobile source type to be inventoried, is dependent entirely on the data base input to the model.

A number of data bases have been compiled for the South Coast Air Basin consisting of light duty vehicles (LDV) and heavy duty vehicles (HDV). See footnotes 1 and 2 for details concerning the compilation of these data bases. Each data base consists of the following information:

¹"A Mobile Source Emission Inventory System For Light Duty Vehicles In The Souty Coast Air Basin", dated February 1977.

²"A Heavy-Duty Vehicle Emission Inventory System", dated October 1977.

- Distribution of vehicle population and annual vehicle miles traveled (VMT) by vehicle type and model year.
- Coordinates of all freeway, arterial and collector road segments in the study area.
- Traffic model estimates of annual average daily volume and average peak and off-peak speed on each road segment.
- Disaggregating factors based on actual traffic count data to provide weekday/weekend, seasonal, road type, vehicle type, and temporal volume distribution.

Using these data bases, the emissions model produces emission estimates for the South Coast Air Basin with 10 KM grid spatial resolution and one-hour temporal resolution. Output of the model is very flexible, providing both tabular and graphical results.

This report is composed of six sections comprising both a user's manual and programmer's guide. Following the general description of the model provided in this section, a detailed model definition is given in Section 2. The software structure of the model is described in Section 3 and Input/Output is discussed in Section 4. A sample case is provided in Section 5. Appendix A contains source listings of each component of the model.

MODEL DESCRIPTION

The computer model follows the procedure illustrated in Figure 1. Two parameters, VMT and the emission factor, are processed in parallel to account for season, time of day, operating conditions, vehicle population mix, etc. The process results in values of VMT and emission factors reflecting the modeled driving conditions for each grid square. The model output is the emissions in each grid square for the period of interest.

This section will describe the method of computing each parameter considered in the inventory.

Base Value VMT

The base value VMT represents the total average daily weekday VMT on each road link in the study area. For the South Coast Air Basin these data are provided by the LARTS model and are available on magnetic tape.

The data contained on the magnetic tape include the coordinates of the end points of the road link in system coordinates, link length, road type (freeway or non-freeway), annual average weekday traffic volume on link, peak and off-peak traffic average speeds on link, and county (or counties) in which link is located. The base VMT on the link is:

$$\text{VMT} = \text{Volume} * \text{length}.$$

Grid VMT

The aggregated grid VMT is a data array containing the VMT within each grid for speeds given in increments of five miles per hour (between 15 and 60 MPH) and for each driving condition (road type and peak/off peak time period). The VMT on each link (or fraction of a link) contained in a grid square is summed for the appropriate conditions to obtain the final data array.

Inventory VMT

The final inventory VMT to be combined with the appropriate emission factor is the VMT for each grid square adjusted for driving conditions for the time period under consideration. Thus, the inventory VMT at a specific speed, s , for a specific grid square and time period is:

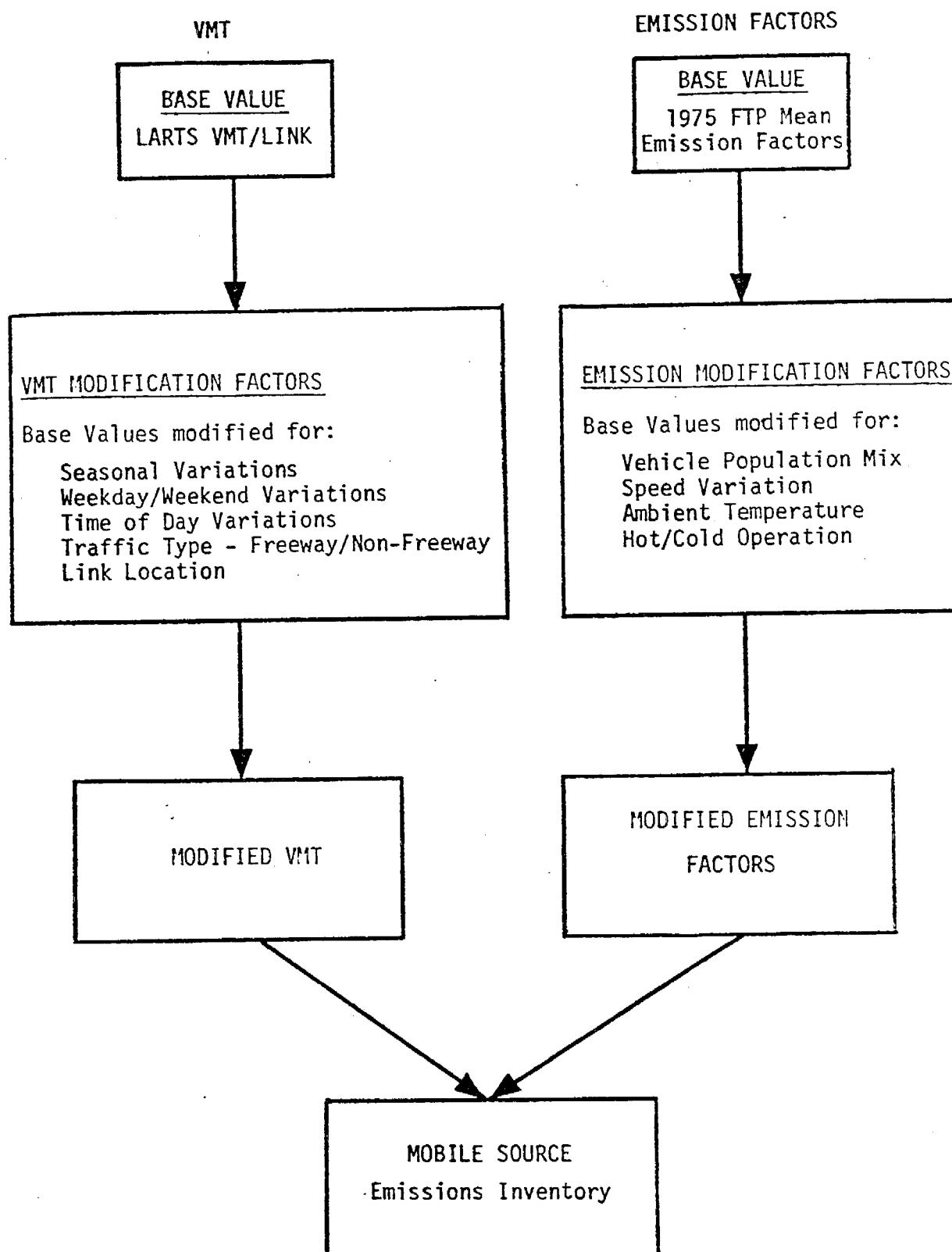


Figure 1. The Inventory Development Process

$$VMT = VMT_{s,t} * F_d * F_y * F_h * F_v$$

where:

$VMT_{s,t}$ is total average weekday VMT (base VMT) at speed on roadtype t in a grid square.

F_a is the weekday/weekend adjustment factor (weekday is 1, since the base VMT corresponds to average weekday VMT).

F_y is seasonal adjustment factor,

F_h is hourly adjustment factor for this grid type.

F_v is vehicle type fraction.

The adjustment factors are derived for as many as ten different grid square types.

Emission Factors

The composite emission factors are given by:

$$e_{npstwx} = \sum_{i=n-18}^n c_{ipn} m_{in} v_{ips} z_{ipt} r_{iptwx}$$

where:

e_{npstwx} = Composite emission factor in (g/mi) for calendar year n, pollutant p, average speed s, ambient temperature t, percent cold operation w, and percent hot start operation x.

c_{ipn} = The mean emission factor for the i^{th} model year during calendar year n and for pollutant p.

m_{in} = The fraction of annual travel by the i^{th} model year during calendar year n.

v_{ips} = The speed correction factor for the i^{th} model year for pollutant p and average speed s.

z_{ipt} = The temperature correction factor for the i^{th} model year for pollutant p and ambient temperature t.

r_{iptwx} = The hot/cold vehicle operation correction factor for the i^{th} model year for pollutant p, ambient temperature t, percent cold operation w, and percent hot start operation x.

The emission factors were obtained as follows:

c_{ipn} = Is tabulated by model year, pollutant and calendar year.

m_{in} = Is computed by multiplying the fraction of i model year vehicles operating in the SCAB in calendar year n by the average annual mileage of an ith model year vehicle in SCAB divided by the average number of miles traveled by all vehicles.

v_{ips} = Is computed for hydrocarbons and carbon monoxide by the equation below:

$$v_{ips} = e^{(A_{ip} + B_{ip}S + C_{ip}S^2)}$$

For NO_x the equation is of the form:

$$v_{ips} = A_i + B_i S$$

z_{ipt} = Is computed by the equation:

$$z_{ipt} = A_{ip}t + B_{ip}$$

The coefficients A_{ip} and B_{ip} are tabulated by model year and pollutant. The model year is considered in the temperature factor only in the determination of catalyst/non-catalyst factors.

r_{iptwx} = Is computed for non-catalyst vehicles by:

$$r_{iptwx} = \frac{W + (100-W)f(t)}{20 + 80f(t)}$$

where:

$$f(t) = A_p t + B_p$$

For catalyst vehicles:

$$r_{iptwx} = \frac{W + (X)f(t) + (100-W-X)g(t)}{20 + 27f(t) + 53g(t)}$$

where:

$f(t)$ is the same as above and

$$g(t) = A_p t + B_p$$

for exhaust hydrocarbons and nitrogen oxides.

For carbon monoxide:

$$g(t) = e^{(A_p t + B_p)}$$

Average rather than composite emission factors are used for sulfur dioxide, particulates and crankcase hydrocarbons.

Exhaust emissions are expressed in terms of grams of pollutant per vehicle mile traveled. However, for diurnal and hot-soak evaporative hydrocarbon emissions, the usual measure is grams of pollutant per vehicle per day and grams of pollutant per vehicle trip, respectively. Because the spatial and temporal resolution of the inventory is derived from VMT distributions, another means of distributing evaporative emissions was developed. For diurnal emissions, it can be assumed that the vehicle population is distributed spatially in the same manner as the general population. The general population distribution can easily be determined on a grid square basis from population density maps.

The average diurnal emission factor is given by

$$e_d = \sum_{i=1}^n g_i a_i$$

where:

g_i = The diurnal evaporative emission factor for model year i in gm/day,

a_i = The vehicle population distribution by model year.

The diurnal hydrocarbon emissions in grid square (j,k) are then given by

$$E_{jk} = N P_{jk} e_d$$

where

N = The total number of vehicles in the basin.

P_{jk} = The fraction of population in grid square (j,k) .

If hourly emission estimates are desired, then daily values are simply divided by 24.

Hot-soak hydrocarbon emissions are a function of the number of trips generated. It can be assumed that the trip distribution and the VMT distribution follow the same pattern, both spatially and temporally if considered on a daily basis. The hot-soak emissions can also be assumed to be identical for each day of the year (i.e., no seasonal variation).

The average hot-soak emission factor is given by

$$e_n = \sum_{i=n-18}^n d_i M_{in} \quad \text{gm/trip}$$

where:

d_i = The hot-soak evaporative emission factor for model year i in gm/trip.

The hot-soak evaporative hydrocarbon emissions at hour ℓ in grid square (j,k) are then given by

$$E_{\ell jk} = e_n t_d N T_{\ell jk} V_{jk} / V_{tot}$$

where:

t_d = The average number of trips per day for an LDV.

N = The total number of vehicles in the SCAB,

V_{jk} = The daily VMT in grid square (j,k) ,

$T_{\ell jk}$ = The hourly VMT factor for the grid square,

V_{tot} = The total VMT in the SCAB.

The first three parameters of the equation represent the total daily hot-soak emission in the basin. The ratio of the VMT in grid (j,k) to the total VMT apportions the daily emissions by VMT, and the time factor $T_{\ell jk}$ converts from daily to hourly emissions. The hourly time factor is again proportional to the hourly VMT.

Software Description

The model is executed in four steps corresponding to the modules shown in Figure 2. This step-wise procedure allows for preserving intermediate results.

The first module, the VMT Aggregation Module reads the traffic model link tape and combines VMT which have a common grid square, speed, and road type into a VMT matrix. Four such VMT matrices are constructed corresponding to non-freeway off-peak conditions, non-freeway peak, freeway off-peak, and freeway peak conditions. These matrices contain the total VMT from all types of vehicles.

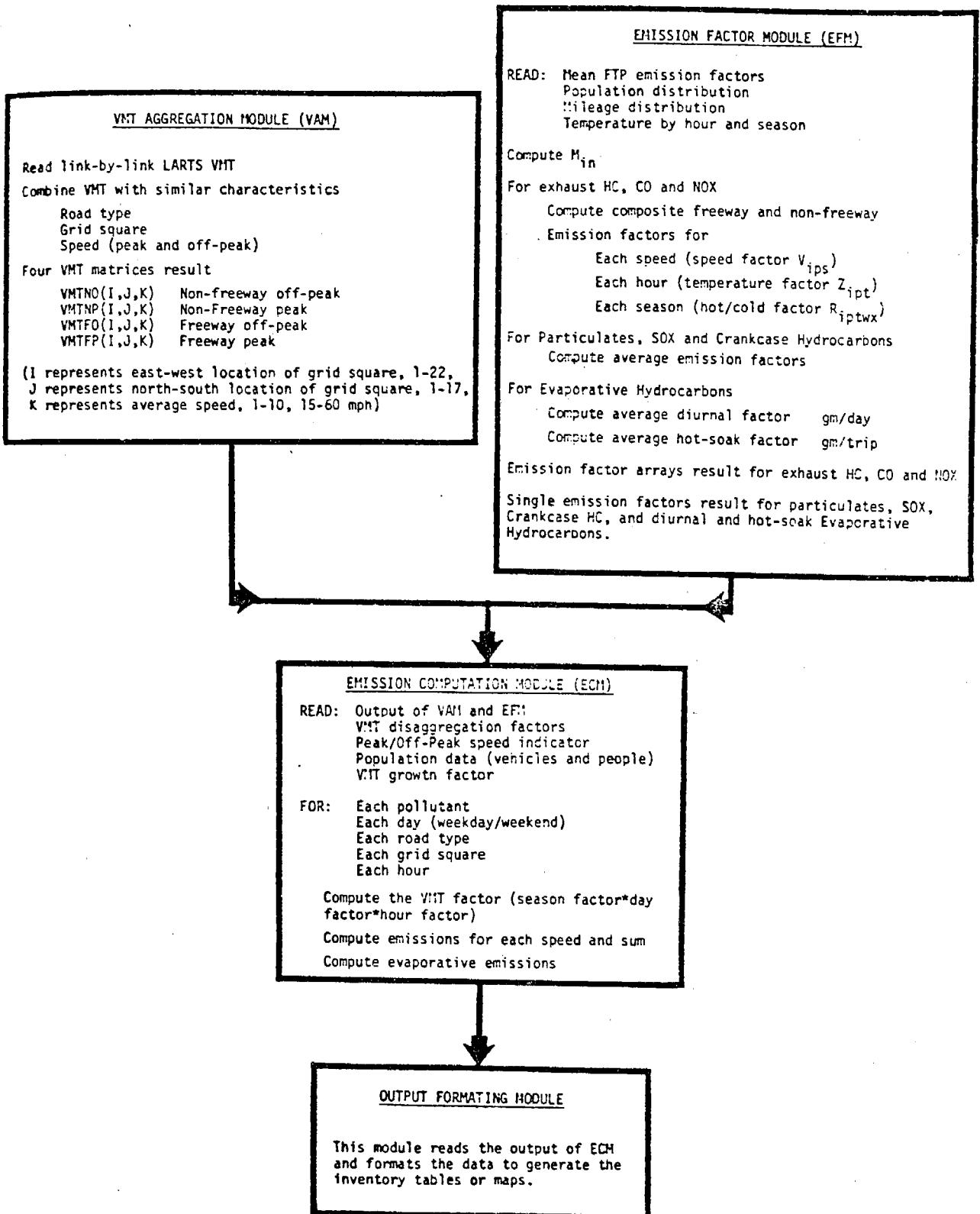


Figure 2. Emission Inventory Model Flow Diagram

The Emission Factor Module (EFM) computes emission factors for:

Exhaust Hydrocarbons	Sulfur Dioxide
Carbon Monoxide	Crankcase Hydrocarbons
Oxides of Nitrogen	Evaporative Hydrocarbons
Particulates	Diurnal
	Hot-Soak

Composite emission factors reflecting speed, temperature and hot/cold operation are computed for exhaust HC, CO and NO_x. These composite factors are computed for each speed (15-60 mph in increments of 5 mph), each hour and each season for freeway and non-freeway driving patterns. Single value average emission factors are computed for the remaining pollutants.

The Emission Computation Module (ECM) combines the results of the VAM and the EFM along with the VMT disaggregation factors to construct the emissions inventory. This module computes emissions for each pollutant, each season, each day type (weekday/weekend), each road type, each grid square for each hour of the day. This module includes all the season, day and hour VMT factors, along with the VMT growth factor and the fraction of the VMT from the VAM, yield the disaggregated VMT. The proper emission factor from the emission factor array is chosen and the emissions are computed. The evaporative hydrocarbon emissions are calculated as discussed above. The results of the ECM module are output to tape. The tape is then read by the Output Formatting Module (REPORT) and selected portions of the data are formatted into the inventory tables or the emissions maps.

INPUT

There are three different types of input used in the Mobile Source Inventory model. The first type is EBCDIC encoded and read with a FORTRAN FORMAT'ed READ statement. The data to be read is supplied on magnetic tape and the tape record layout and READ and FORMAT statement definitions are set up to be mutually compatible. The only data file that is currently input with this method is the LARTS data.

Another input type is binary data read with an un-FORMAT'ed READ statement. This type of input takes a minimum of computer resources and is used in passing large quantities of data from one program module to the next. The data remains coded in the machine internal representation and is not human readable. Binary data files include all output files from the VAM, EFM, and ECM program modules which then serve as input to subsequent modules.

The last input type, and the most important one from the user's viewpoint, is NAMELIST input. The NAMELIST feature was designed expressly for assigning values to input variables. It has the following convenient features.

- Free-form input, data need not be punched or typed in particular columns.
- Variables may be entered in any order.
- If variables are assigned default values within the program, only variables which are to be assigned values different from their default values need be entered.
- If a program performs multiple runs, only variables which change value from run to run need be entered, all variables not assigned new values will retain their old values.
- Automatic echo-printing of input values is provided if desired.

Figure 3 specifies the basic format for NAMELIST input data cards. Each data set begins with a "\$ input-file-name" card and ends with a "\$END" card. If the program has been set up to provide multiple runs several data sets may be placed one after the other. Each data set must

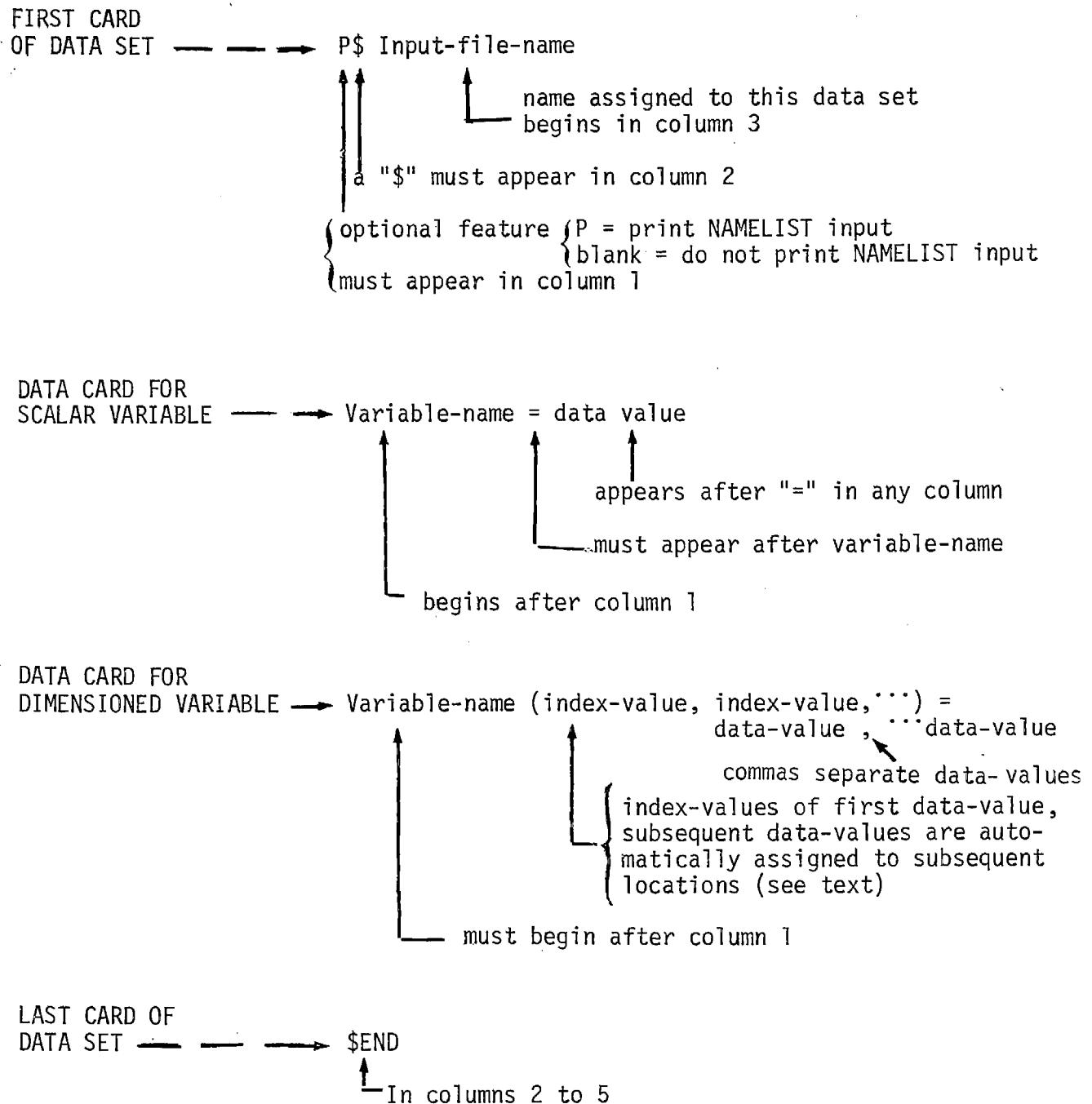


Figure 3. NAMELIST Input

have its own "\$ input-file-name" and "\$END" cards. Data sets placed after the first data set need only input those data values that are to be changed from the previous run.

The data cards, referencing either scalar (single-valued) variables or dimensioned (multiple-valued) variables are placed between the \$input-file-name" and "\$END" cards. The variables may be placed in any order and may be entered in any column (after column 1). The scalar variables are entered simply by punching the variable name followed by a "=" sign followed by the data value. Dimensioned variables are entered in a similar way with two differences. First, the storage location, within the array, of the first data-value given must be specified within parentheses after the variable name. Secondly, multiple data-values may be given separated by commas. The data values may also be continued onto the next card (after column 1) provided the previous card ends with a comma. The first data-value given will be stored in the location specified by the given subscripts. Subsequent data-values will be stored into each location following the one specified.

Entering multiple data values for dimensioned variables (arrays) must be done with special care; especially if they are doubly subscripted. Array subscripts in FORTRAN are incremented from left to right. For example, ARRAY (2, 1) immediately follows ARRAY (1, 1) and is the second storage location in variable ARRAY. ARRAY (1, 2) occurs immediately after ARRAY (M, 1) where ARRAY has M rows. This "column major convention" is opposite to the usual convention. It must be kept in mind when entering data into a doubly (or triply) dimensioned array.

Another potential problem area to watch out for is entering more data into an array than the array can hold. For example, entering:

DATA (3) = 1, 2, 3, 4

when DATA has a maximum of 5 entries would result in an error.

Another useful feature in entering multiple data-values is the "multiplication factor." Instead of entering:

ARRAY (1, 1) = 1, 2, 3, 3, 3, 3, 4, 5, 5, 5, 6

one may enter:

ARRAY (1, 1) = 1, 2, 4 * 3, 4, 3 * 5, 6

where the "4*" and "3*" indicates that the data-values "3" and "5" are to be entered "4" and "3" times each, respectively. This greatly simplifies the task of entering large blocks of repetitive data.

As an example, of dimensioned variable entry, assume an input variable named POPDIS (I, J) whose value indicates the fractional population of vehicles of type J and age I years. Assume there are 4 vehicle types and vehicles 1 to 20 years old are represented. The problem is to enter the following data values:

<u>Age</u>	<u>Vehicle Type</u>	<u>Data Value</u>	<u>Storage Location</u>
1	1	.0205	POPDIS (1, 1)
1	2	.0376	POPDIS (1, 2)
1	3	.0565	POPDIS (1, 3)
1	4	.0560	POPDIS (1, 4)
2	1	.092	POPDIS (2, 1)
2	4	.0893	POPDIS (2, 4)
3	1	.1040	POPDIS (3, 1)
3	4	.1003	POPDIS (3, 4)
5	4	.0811	POPDIS (5, 4)
6	4	.07719	POPDIS (6, 4)

This data would be entered with the following statements.

POPDIS (1, 1) = .0205, .092, .1040

POPDIS (1, 2) = .0376

POPDIS (1, 3) = .0565

POPDIS (1, 4) = .0560, .0893, .1003

POPDIS (5, 4) = .0811, .07719

Input Variables for VAM

The NAMELIST input-file-name for VAM (the VMT aggregation module) is DATIN. The NAMELIST input is read on data set reference number 1. The NAMELIST variables are defined below:

NAMELIST DATIN

<u>Variable Name</u>	<u>Variable Contents</u>
NLINK	Number of links to be read from LARTS file. NLINK \geq 10000 will read all links.
XMIN	Minimum east-west UTM coordinate to be included in VMT (km).
XMAX	Maximum east-west UTM coordinate to be included in VMT output (km).
YMIN	Minimum north-south UTM coordinate to be included in VMT output (km).
YMAX	Maximum north-south UTM coordinate to be included in VMT output (km).
DXY	Length of each side of the grid squares.
ITYPEG (I,J)	Grid type of grid square I,J.
JTYPEG (I,J)	HDV grid type of grid square I,J.

A sample NAMELIST input file is given in Appendix A.

VAM also reads the LARTS link-by-link VTM data and is included as a deliverable on magnetic tape. The LARTS data is input on data set reference number 3. The data is encoded in EBCDIC and is input with a FORMAT'ed READ statement. The format of this data is not a problem the user need consider. Nevertheless, the internal variable names, content descriptions, and the locations on tape records of the input data is tabulated below:

<u>Internal Variable Name</u>	<u>Contents</u>	<u>Location in Tape Record</u>
IFWY	Road type of line = 0 Non-freeway = 1 Freeway	23-24
IVOL	Annual average weekday traffic volume on link.	25-32
X1	East-West coordinate of end 1 of link.	49-56

Y1	North-South coordinate of end 1 of link.	57-64
X2	East-West coordinate of end 2 of link.	65-72
Y2	North-South coordinate of end 2 of link.	73-80
SPDPK	Peak traffic average speed on link.	81-85
SPDOPK	Off-peak traffic average speed.	86-90
DIS	Length of the link	101-105
IC1	County identifier specifying the county in which the link lies: 1 - Santa Barbara 2 - Ventura 3 - Los Angeles 4 - Orange 5 - Riverside 6 - San Bernardino 7 - Outside	106-108
PC1	Fraction of link in county specified by IC1.	109-114
IC2	Additional county in which the link lies.	115-117
PC2	Fraction of link in county IC2.	118-123

Input Variables for EFM

The Emission Factor Module has only two input files; both NAMELIST. One file (input-file-name EMFTR on data set reference number 4) is used only to input average emission factors. This variable is given below:

NAMELIST EMFTR

<u>Variable Name</u>	<u>Contents</u>
CIPN(I,L)	The mean FTP or average emission factor for model year I and pollutant L: L=1 - Exhaust Hydrocarbons gm/mi L=2 - Carbon Monoxide gm/mi L=3 - Nitrogen Oxides gm/mi L=4 - Sulfur Dioxide gm/mi L=5 - Particulates gm/mi L=6 - Diurnal Evaporative Hydrocarbons gm/trip L=7 - Hot-Soak Evaporative Hydrocarbons gm/trip L=8 - Crankcase Hydrocarbons gm/mi

The other NAMELIST input file is used for all other input. The input-file-name is NAMELA and is accessed on data set reference number 1. The variables are defined as follows:

NAMELIST NAMELA

<u>Variable Name</u>	<u>Contents</u>
COLDOP	Percentage of Cold Vehicle Operation.
HOTSOP	Percentage of Hot Start Vehicle Operation.
HOTCOP	Percentage of Hot Cruise Vehicle Operation.
TEMPER(K,J)	Average temperature ($^{\circ}$ F) during daily time period K and season J.
NSESN	Number of seasons to be considered. Seasons may be defined as any portion of the year. $1 \leq NSESN \leq 4$.
NSPD	Number of speeds to be considered.
SPDMN	Minimum speed to be considered.
DSPD	Speed increment.

KVEH	Vehicle type (EPA definitions)
	1 - LDP
	2 - LDT
	3 - HDV Gas
	4 - HDV Diesel
IYEAR	Year modeled
IREGN	Region modeled
	1 - Low altitude
	2 - High altitude
	3 - California
ANNMIL(I)	Annual average mileage for a vehicle of age I. If the year modeled is 1975
	1 = 1 1976 model year vehicles
	1 = 2 1975 " " "
	. .
	. .
POPDIS(I,J)	Fraction of all vehicles of this type having age I in season J.
NYRS	Number of vehicle model years to be considered.
NPERD	Number of time periods per day (usually 24).
ICAT	Catalytic Converter Flag
	1 - Vehicle has a catalytic converter.
	2 - Vehicle does not have a catalytic converter.

Sample NAMELIST input files for both EMFTR and NAMELA for the EFM module appears in Appendix A.

Input Variables for ECMPLT

The Emission Computation Module for Plotting is very similar to ECM except that its output is generated by grid square instead of by county. This data was used in generating the plots which accompany the final report.

ECMPLT has three input files on data set reference numbers 1, 4, and 5. The first contains NAMELIST input (file name DATIN) and is presented below. The latter two files contain binary formated data from the VMT and EFM modules respectively.

NAMELIST DATIN

<u>Variable Name</u>	<u>Contents</u>
VTFAC(N,K,M)	Fraction of the total VMT attributable to this type vehicle in time period N, HDV grid type K and day M.
TNOVECH	The total number of vehicles of this type in the SCAB.
GROWTH	Factor to be applied to the Base VMT to account for VMT growth. LARTS VMT is the 1974.
TOTVMT	The total base LARTS VMT for all vehicle types.
TRIPDY	The average number of trips per day for each vehicle.
NSESN	Number of seasons considered.
NDAY	Number of days considered: 1 - Weekdays only 2 - Weekdays and weekends
NPERD	Number of time periods per day considered.
NSPD	Number of speeds considered. NSPD's must be the same in VAM, EFM and ECM.
NROAD	Number of road types considered: 1 - Non-freeways only 2 - Both freeways and non-freeways
MODE	= 0 Compute by season, weekday/weekend and road type as defined by NSESN, NDAY, and NROAD. = 1 Same as with average season factors. = 2 Same as "0" with average day factors AD = (5*WD + 2*WE)/7. = 3 Combination of "1" and "2".

NXGRID	Number of grid squares in east-west direction.
NYGRID	Number of grid squares in north-south direction.
POPG(I,J)	The fraction of the total people population in grid square (I,J). Used to distribute diurnal evaporative hydrocarbon emissions.
ITYPEG(I,J)	Grid type of grid square (I,J).
FSESNF(L,K)	Freeway season factor for season L and grid type K.
FSESNS(L,K)	Non-freeway season factor for season L and grid type K.
FDAYF(M,L,K)	Freeway day-of-week factor for day M, season L, and grid type K. M = 1 Weekday = 2 Weekend
FDAYS(M,L,K)	Non-freeway day-of-week factor for day M, season L and grid type K.
FTIMEF(N,M,K)	Freeway time-of-day factor for time period N, day-of-week M, and grid type K.
FTIMES(N,M,K)	Non-freeway time-of-day factor for time period N, day-of-week M, and grid type K.
IPKSPF(N,M,K)	Freeway peak/off-peak speed indicator for time period N, day-of-week M, and grid type K. IPKSPF = 0 Off-peak speed = 1 Peak speed
IPKSPS(N,M,K)	Non-freeway peak/off-peak speed indicator for time period N, day-of-week M, and grid type K.
JTYPEG(I,J)	HDV grid type of grid square (I,J)

Input Variables for ECM

The Emission Computation Module requires three input files. The output created by VAM on data set reference number 4 and the output created by EFM on data set reference number 5 are input to ECM directly on those same reference numbers. Both files are in binary (internal machine) code and are not meant to be viewed or modified by the user. The last input file is to be set up by the user in NAMELIST format. The input-file name is "DATIN" and the data set reference number is 1 for this data file. The variable names and contents are tabulated below:

NAMELIST DATIN

<u>Variable Name</u>	<u>Contents</u>
VTFAC(N,K,M)	Fraction of the total VMT attributable to this type of vehicle in time period N and HDV grid type K, and day M.
TNOVEH	The total number of vehicles of this type in the SCAB.
GROWTH	Factor to be applied to the Base VMT to account for VMT growth. LARTS VMT is for 1974.
TOTVMT	The total base LARTS VMT for all vehicle types.
TRIPDY	The average number of trips per day for each vehicle.
NSESN	Number of seasons considered.
NDAY	Number of days considered: 1 - Weekday only 2 - Weekdays and weekends
NPERD	Number of time periods per day considered.
NSPD	Number of speeds considered. NSPD's must be the same in VAM, EFM and ECM.
NROAD	Number of road types considered: 1 - Non-freeways only 2 - Both freeways and non-freeways
PCTVMT(I)	Fraction of VMT by road type for the SCAB: I = 1 - Non-freeway = 2 - Freeway
FSESNF(L,K)	Freeway season factor for season L and grid tape K.
FSESNS(L,K)	Non-freeway season factor for season L and grid type K.

NAMELIST DATIN (Continued)

<u>Variable Name</u>	<u>Contents</u>
FDAYF(M,L,K)	Freeway day of week factor for day M, season L, and grid type K.
	$M = 1 - \text{Weekday}$ $= 2 - \text{Weekend}$
FDAYS(M,L,K)	Non-freeway day of week factor for day M, season L and grid type K.
FTIMEF(N,M,K)	Freeway time of day factor for time period N, day of week M, and grid type K.
FTIMES(N,M,K)	Non-freeway time of day factor for time period N, day of week M and grid type K.
IPKSPF(N,M,K)	Freeway peak/off-peak speed indicator for time period N, day of week M and grid type K.
	$\text{IPKSPF} = 0 - \text{Off-peak speed}$ $= 1 - \text{Peak speed}$
IPSKPS(N,M,K)	Non-freeway peak/off-peak speed indicator for time period N, day of week M and grid type K.
NREGN	Number of counties modeled plus 1.
CNOVEH(I)	Number of vehicles of this type modeled in county number I.

A sample of NAMELIST input for ECM appears in Appendix A.

Input Variables for REPORT

The report generating module "REPORT" receives its input directly from ECM. This data is in binary format and is entered via data set reference number 20 (emissions data from reference number 3 of ECM) and 21 (VTM data from reference 7 of ECM). Output is to the printer.

OUTPUT

The output generated by the various program modules fall into three categories according to function. They serve to transfer data from a module to a subsequent module, they generate a summary report of the results of the analysis and if desired they can provide a detailed "dump" of intermediate computations and final results. A detailed dump is generally expensive and infrequently needed. As a default condition this part of the code is disabled by placing a "C" in card column 1. Replacing the "C" with a blank will cause the data to be generated. Any FORTRAN programmer can do this. The following sections describe the output from each module.

VAM Output

The Vehicle Aggregation Module produces output on data set reference numbers 2 and 4, and on the system output device (which is usually a line printer). The first two files are used to transfer VMT data to the ECMPLT and ECM modules respectively, while the third generates a listing of VMT data.

EFM Output

The Emission Factor Module creates only one output file, binary emission factor data on data set reference number 5. This data is input to both the ECM and the ECMPLT modules.

ECM Output

The Emission Computation module creates the several output data sets described below:

Reference Number	Contents	Comments
2	Hourly and daily emissions by county	FORMAT'ed
3	Daily emissions by county	Input to REPORT
6	Daily emissions by county	FORMAT'ed
7	VMT data by county	Input to REPORT

ECMPLT Output

The Emission Computation Module for plotting produces a binary file of daily emissions by grid square on date set reference number 3 and a FORMAT'ed output of hourly emissions by grid square on number 2. The FORTRAN FORMAT of the latter is:

A header record for each file contains season, day, and road numbers with a FORMAT of (3I5). Within each season, day, and road type the subsequent records each contain the hour, grid number in the x direction, grid number in the y direction, and the total emissions of each of the 8 pollutant species. The FORMAT is (I2, 2I3, 8F9.5).

REPORT Output

The program module REPORT generates the summary listings by county of total emissions for each pollutant and vehicle type. The output appears on data set reference number 6. A sample of this output appears in Appendix C.

PROGRAM FLOW

The diagram in Figure 4 illustrates how the various program modules are linked to provide proper program flow. The type of each file (FORMAT'ed or EBCDIC, binary, and NAMELIST) is indicated along with the data set reference number used in specifying the input or output file. A descriptive phase indicating the contents of the file is also provided. The general format of the data is:

n = contents (type) or
n = NAMELIST filename

where n is the data set reference number, filename is the name of the NAMELIST input file and contents and type are as stated. The arrows indicate the direction in which data flows.

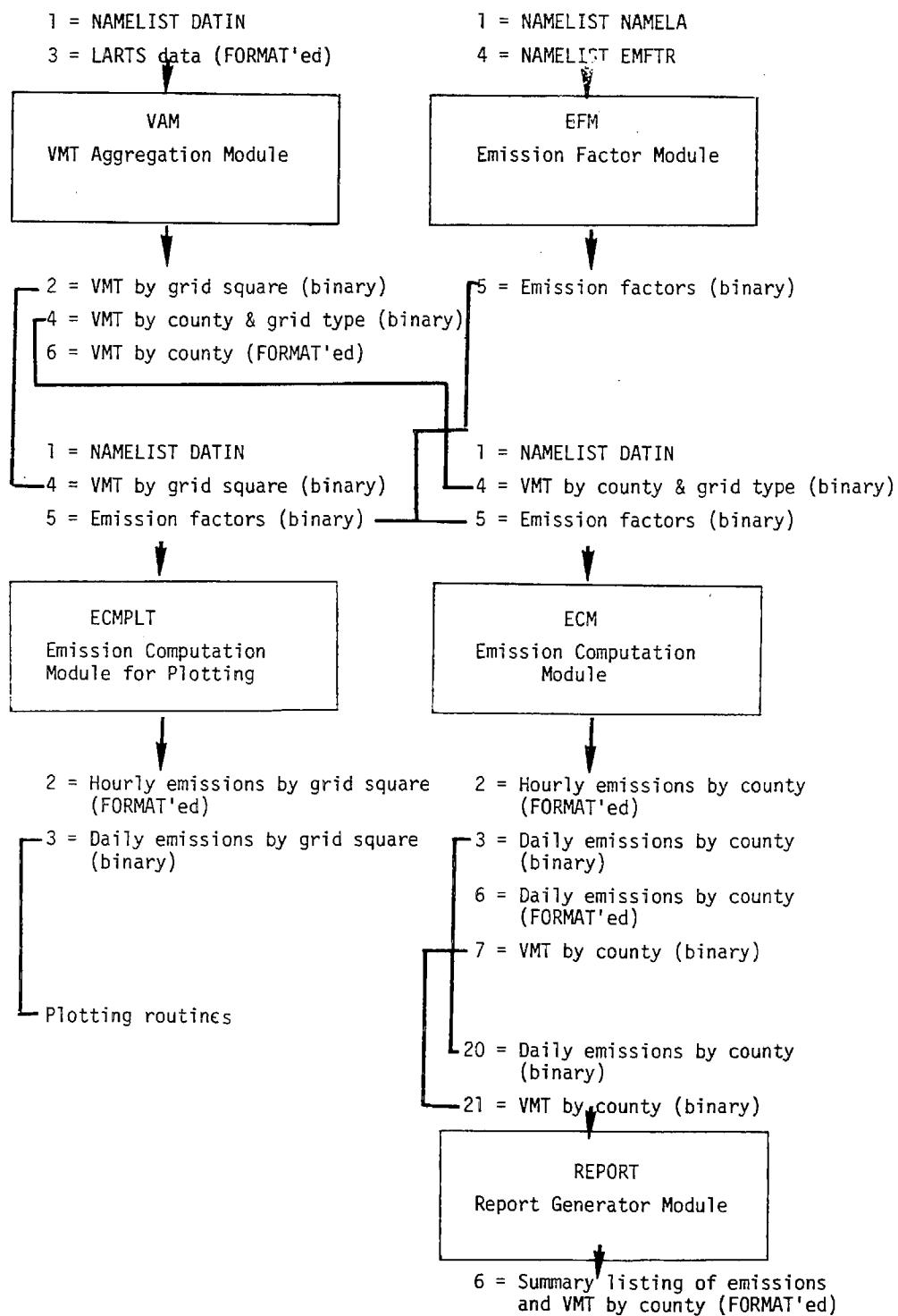


Figure 4. Program Flow

APPENDIX A

SAMPLE INPUT LISTINGS

LISTING OF NAMELIST DATIN FOR VAM

```

$DATIN
XMIN=320., XMAX=540., YMIN=3690., YMAX=3860.,
DXY=10., NLINK=1000,
JTYPEG(1,1)=4*5, 2*5, 5*5, 11*5,
JTYPEG(1,2)=3*5, 2*5, 5*5, 1, 11*5,
JTYPEG(1,3)=9*5, 2*1, 11*5,
JTYPEG(1,4)=8*5, 3, 2*1, 11*5,
JTYPEG(1,5)=4*5, 5*3, 2*1, 11*5,
JTYPEG(1,6)=5*5, 6*1, 11*5,
JTYPEG(1,7)=4*5, 7*1, 11*5,
JTYPEG(1,8)=4*4, 8*2, 3*4, 7*5,
JTYPEG(1,9)=4*4, 3*3, 5*2, 5*4, 5*5,
JTYPEG(1,10)=4*4, 4*3, 4*5, 5*4, 5*5,
JTYPEG(1,11)=3*5, 5*3, 14*5,
JTYPEG(1,12)=3*5, 3*2, 16*5,
JTYPEG(1,13)=22*5,
JTYPEG(1,14)=22*5,
JTYPEG(1,15)=22*5,
JTYPEG(1,16)=22*5,
JTYPEG(1,17)=22*5,
JTYPEG(1,1)=11*3, 1, 1, 9*3
JTYPEG(1,2)=11*3, 1, 1, 9*3
JTYPEG(1,3)=11*3, 1, 10*3
JTYPEG(1,4)=8*3, 3*2, 1, 10*3
JTYPEG(1,5)=6*3, 5*2, 7*3, 2, 3*3
JTYPEG(1,6)=5*3, 6*2, 3, 2, 9*3
JTYPEG(1,7)=4*3, 6*2, 3, 3, 4*2, 1, 1, 4*3
JTYPEG(1,8)=4*3, 14*2, 4*3
JTYPEG(1,9)=3, 1, 1, 3, 3, 12*2, 5*3
JTYPEG(1,10)=3, 1, 1, 5*2, 5*3, 1, 1, 7*3
JTYPEG(1,11)=4*3, 2, 8*3, 1, 8*3
JTYPEG(1,12)=3*3, 3*1, 16*3
JTYPEG(1,13)=3, 3, 6*1, 14*3
JTYPEG(1,14)=3, 1, 19*3
JTYPEG(1,15)=3, 1, 1, 19*3
JTYPEG(1,16)=3, 1, 20*3
JTYPEG(1,17)=22*3
$END

```

LISTING OF NAMELIST EMFTR FOR EFM

```

$EMFTR
CIPN(1,1)= 2.70,   3.00,   4.46,   4.80,   5.55,   6.20,   7.20,
CIPN(1,2)= 13.60,  17.30,  17.00,  17.00,  17.00,  17.00,  17.00,
CIPN(1,3)= 27.00,  28.50,  47.20,  49.40,  61.90,  63.50,  63.50,  60.50, 108.202
CIPN(1,4)= 108.20, 125.00, 125.00, 125.00, 125.00, 125.00, 125.00, 0.00, 0.00,
CIPN(1,5)= 3.70,   3.70,   3.10,   5.00,   4.40,   4.60,   5.20,   5.30,   4.90,  4.50,
CIPN(1,6)= 4.50,   4.20,   4.20,   4.20,   4.20,   4.20,   4.20,   0.00,  0.00,
CIPN(1,7)= 0.18,   0.34,   0.34,   0.34,   0.34,   0.34,   0.34,   0.34,   0.34,
CIPN(1,8)= 0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,
CIPN(1,9)= 0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,   0.54,
CIPN(1,10)= 12.10,  12.10,  12.10,  12.10,  12.10,  12.10,  16.30,  16.30,  16.30,
CIPN(1,11)= 26.00, 26.00, 26.00, 26.00, 26.00, 26.00, 26.00, 26.00, 26.00,
CIPN(1,12)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 10.90, 10.90, 10.90,
CIPN(1,13)= 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
CIPN(1,14)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,15)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,16)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
SEND
$EMFTR
CIPN(1,1)= 6.00,   6.00,   13.30,  13.90,  14.00,  14.10,  14.20,  35.40,  35.40,
CIPN(1,2)= 35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,
CIPN(1,3)= 152.00, 153.00, 169.00, 199.00, 188.00, 188.00, 188.00, 238.00, 238.00,
CIPN(1,4)= 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 0.00, 0.00,
CIPN(1,5)= 11.40,  11.40,  12.50,  12.70,  12.70,  12.80,  12.80,  6.80,  6.80,
CIPN(1,6)= 6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   0.00,  0.00,
CIPN(1,7)= 0.36,   0.36,   0.36,   0.36,   0.36,   0.36,   0.36,   0.36,  0.36,
CIPN(1,8)= 0.36,   0.36,   0.36,   0.36,   0.36,   0.36,   0.36,   0.36,  0.36,
CIPN(1,9)= 1.11,   1.11,   1.11,   1.11,   1.11,   1.11,   1.11,   1.11,  1.11,
CIPN(1,10)= 1.11,  1.11,  1.11,  1.11,  1.11,  1.11,  1.11,  0.00,  0.00,
CIPN(1,11)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 78.00, 78.00,
CIPN(1,12)= 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 0.00, 0.00,
CIPN(1,13)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 14.70, 14.70,
CIPN(1,14)= 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
CIPN(1,15)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,16)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
SEND
$EMFTR
CIPN(1,1)= 6.00,   6.00,   13.30,  13.90,  14.00,  14.10,  14.20,  35.40,  35.40,
CIPN(1,2)= 35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,
CIPN(1,3)= 152.00, 153.00, 159.00, 188.00, 188.00, 188.00, 188.00, 238.00, 238.00,
CIPN(1,4)= 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 0.00, 0.00,
CIPN(1,5)= 11.40,  11.40,  12.60,  12.70,  12.70,  12.70,  12.70,  6.80,  6.80,
CIPN(1,6)= 6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   0.00,  0.00,
CIPN(1,7)= 0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,  0.00,
CIPN(1,8)= 0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,  0.00,
CIPN(1,9)= 0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,  0.00,
CIPN(1,10)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,11)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,12)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,13)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,14)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,15)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
CIPN(1,16)= 0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,  0.00,
```

```

CIPN(1,4) =   6.80,   6.80,   6.80,   6.80,   6.80,   6.80,
               .36,   .36,   .36,   .36,   .36,   .36,
CIPN(1,5) =   1.61,   1.61,   1.61,   1.61,   1.61,   1.61,
               1.61,   1.61,   1.61,   1.61,   1.61,   1.61,
CIPN(1,6) =  12.10,  12.10,  12.10,  12.10,  12.10,  12.10,
               78.00,  78.00,  78.00,  78.00,  78.00,  78.00,
CIPN(1,7) =  12.00,  12.00,  12.00,  12.00,  12.00,  12.00,
               14.70,  14.70,  14.70,  14.70,  14.70,  14.70,
CIPN(1,8) =   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
               0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
SEND
SEMFR
CIPN(1,1) =   4.60,   4.60,   4.60,   4.60,   4.60,   4.60,
               4.60,   4.60,   4.60,   4.60,   4.60,   4.60,
CIPN(1,2) =  28.70,  28.70,  28.70,  28.70,  28.70,  28.70,
               28.70,  28.70,  28.70,  28.70,  28.70,  28.70,
CIPN(1,3) = 18.10,  18.10,  18.10,  18.10,  18.10,  18.10,
               20.90,  20.90,  20.90,  20.90,  20.90,  20.90,
CIPN(1,4) =   2.80,   2.80,   2.80,   2.80,   2.80,   2.80,
               2.80,   2.80,   2.80,   2.80,   2.80,   2.80,
CIPN(1,5) =   2.20,   2.20,   2.20,   2.20,   2.20,   2.20,
               2.20,   2.20,   2.20,   2.20,   2.20,   2.20,
CIPN(1,6) =   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
               0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
CIPN(1,7) =   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
               0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
CIPN(1,8) =   0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
               0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
SEND
SEMFR
CIPN(1,1) =   6.00,   6.00,   6.00,   6.00,   6.00,   6.00,
               35.40,  35.40,  35.40,  35.40,  35.40,  35.40,
CIPN(1,2) = 152.00, 153.00, 159.20, 188.00, 188.00, 188.00,
               238.00, 238.00, 238.00, 238.00, 238.00, 238.00,
CIPN(1,3) = 11.40,  11.40,  12.30,  12.70,  12.70,  12.70,
               6.80,   6.80,   6.80,   6.80,   6.80,   6.80,
CIPN(1,4) =   35,     35,     35,     35,     35,     35,
               .36,   .36,   .36,   .36,   .36,   .36,
CIPN(1,5) =  1.31,   1.31,   1.31,   1.31,   1.31,   1.31,
               1.31,   1.31,   1.31,   1.31,   1.31,   1.31,
CIPN(1,6) = 12.10,  12.10,  12.10,  12.10,  12.10,  12.10,
               78.00,  78.00,  78.00,  78.00,  78.00,  78.00,

```

```

    78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 12.19, 0.39, 0.39, 0.99,
CIPN(1,7)= 12.00, 12.00, 12.00, 12.00, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
    14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 0.99, 0.99, 0.99,
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
          0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
SEND
SEMFTR
CIPN(1,1)= 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
          4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
CIPN(1,2)= 28.70, 28.70, 28.70, 28.70, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30,
          21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30
CIPN(1,3)= 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30,
          21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30, 21.30
CIPN(1,4)= 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80,
          2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80
CIPN(1,5)= 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70,
          1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70, 1.70
CIPN(1,6)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
          0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
CIPN(1,7)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
          0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
          0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
SEND
SEMFTR
CIPN(1,1)= 6.00, 13.30, 13.90, 14.00, 14.10, 14.10, 35.46, 35.46, 35.46,
          35.46, 35.46, 35.46, 35.46, 35.46, 35.46, 35.46, 35.46
CIPN(1,2)= 152.00, 153.00, 169.00, 188.00, 188.00, 188.00, 238.00, 238.00, 238.00,
          238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00
CIPN(1,3)= 11.40, 11.40, 12.60, 12.70, 12.70, 12.80, 12.80, 12.80, 12.80,
          12.80, 12.80, 12.80, 12.80, 12.80, 12.80, 12.80, 12.80, 12.80
CIPN(1,4)= 36, 36, 36, 36, 36, 36, 36, 36, 36, 36,
          36, 36, 36, 36, 36, 36, 36, 36, 36
CIPN(1,5)= 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41,
          1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41, 1.41
CIPN(1,6)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10,
          12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10
CIPN(1,7)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00,
          12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
          0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
SEND

```

```

$EMFTR
CIPN(1,1)= 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60
CIPN(1,2)= 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60
CIPN(1,3)= 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70
CIPN(1,4)= 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80
CIPN(1,5)= 1.80, 1.80, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00, 2.00
CIPN(1,6)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
CIPN(1,7)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
SEND
$EMFTR
CIPN(1,1)= 2.70, 3.00, 4.40, 4.80, 5.50, 6.20, 7.20, 7.70, 16.30, 13.60,
CIPN(1,2)= 13.60, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00, 17.00
CIPN(1,3)= 10.8, 20, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00, 12.5, 00
CIPN(1,4)= -4.50, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20, 4.20
CIPN(1,5)= .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34, .34
CIPN(1,6)= .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64, .64
CIPN(1,7)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00
SEND
$EMFTR
CIPN(1,1)= 6.00, 6.00, 13.30, 13.90, 14.00, 14.10, 14.20, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40
CIPN(1,2)= 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40
CIPN(1,3)= 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00
CIPN(1,4)= 11.40, 11.40, 12.60, 12.70, 12.80, 12.80, 12.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80

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CIPN(1,1)= 0.00, 0.00, 0.00,
CIPN(1,2)= 0.00, 0.00, 0.00,
CIPN(1,3)= 0.00, 0.00, 0.00,
CIPN(1,4)= 0.00, 0.00, 0.00,
CIPN(1,5)= 1.41, 1.41, 1.41,
CIPN(1,6)= 12.10, 12.10, 12.10,
CIPN(1,7)= 12.00, 12.00, 12.00,
CIPN(1,8)= 0.00, 0.00, 0.00,
SEND
SEMFR
CIPN(1,1)= 6.00, 6.00, 6.00,
CIPN(1,2)= 35.40, 35.40, 35.40,
CIPN(1,3)= 238.00, 238.00, 238.00,
CIPN(1,4)= 36, 36, 36,
CIPN(1,5)= 36, 36, 36,
CIPN(1,6)= 12.10, 12.10, 12.10,
CIPN(1,7)= 12.00, 12.00, 12.00,
CIPN(1,8)= 0.00, 0.00, 0.00,
SEND
SEMFR
CIPN(1,1)= 4.60, 4.60, 4.60,
CIPN(1,2)= 28.70, 28.70, 28.70,
CIPN(1,3)= 18.10, 18.10, 18.10,
CIPN(1,4)= 2.80, 2.80, 2.80,
CIPN(1,5)= 1.80, 1.80, 1.80,
CIPN(1,6)= 0.00, 0.00, 0.00,
CIPN(1,7)= 0.00, 0.00, 0.00,
CIPN(1,8)= 0.00, 0.00, 0.00,
SEND

```

SEMFTR
CIPN(1,1)= 2.70,   3.00,   4.40,   4.80,   5.50,   6.20,   7.20,
             13.60,  17.00,  17.00,  17.00,  17.00,  17.00,  17.00,
CIPN(1,2)= 27.00,  28.50,  47.20,  49.40,  61.90,  63.50,  63.50,
             108.20, 125.00, 125.00, 125.00, 125.00, 125.00, 125.00,
CIPN(1,3)= 3.70,   3.10,   5.00,   4.40,   4.60,   5.20,
             4.50,   4.20,   4.20,   4.20,   4.20,   4.20,
CIPN(1,4)= 18,     18,     34,     34,     34,     34,     34,
             34,     34,     34,     34,     34,     34,     34,
CIPN(1,5)= 54,     54,     54,     54,     54,     54,     54,
             54,     54,     54,     54,     54,     54,     54,
CIPN(1,6)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10,
             26.00, 26.00, 26.00, 26.00, 26.00, 26.00, 26.00,
CIPN(1,7)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00,
             14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
CIPN(1,8)= 0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
             0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
SEND
SEMFTR
CIPN(1,1)= 6.00,   6.00,   13.30,  13.90,  14.00,  14.10,  14.20,
             35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,
CIPN(1,2)= 152.00, 153.00, 169.00, 188.00, 188.00, 188.00, 188.00,
             238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00,
CIPN(1,3)= 11.40,  11.40,  12.60,  12.70,  12.70,  12.80,  12.80,
             6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   6.80,
CIPN(1,4)= 36,     36,     36,     36,     36,     36,     36,
             36,     36,     36,     36,     36,     36,     36,
CIPN(1,5)= 1.11,   1.11,   1.11,   1.11,   1.11,   1.11,   1.11,
             1.11,   1.11,   1.11,   1.11,   1.11,   1.11,   1.11,
CIPN(1,6)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10,
             78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00,
CIPN(1,7)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00,
             14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
CIPN(1,8)= 0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
             0.00,   0.00,   0.00,   0.00,   0.00,   0.00,
SEND
SEMFTR
CIPN(1,1)= 6.00,   6.00,   13.30,  13.90,  14.00,  14.10,  14.20,
             35.40,  35.40,  35.40,  35.40,  35.40,  35.40,  35.40,
CIPN(1,2)= 152.00, 153.00, 169.00, 188.00, 188.00, 188.00, 188.00,
             238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00,
CIPN(1,3)= 11.40,  11.40,  12.60,  12.70,  12.70,  12.80,  12.80,
             6.80,   6.80,   6.80,   6.80,   6.80,   6.80,   6.80,

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      6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80,
CIPN(1,4)= .36, .36, .36, .36, .36, .36, .36, .36, .36, .36, .36,
      .36, .36, .36, .36, .36, .36, .36, .36, .36, .36, .36,
CIPN(1,5)= 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21,
      1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21, 1.21,
CIPN(1,6)= 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10, 12.10,
      78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00,
CIPN(1,7)= 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00,
      14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
      0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
SEND SEMFTR
CIPN(1,1)= 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
      4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
CIPN(1,2)= 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70,
      28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70, 28.70,
CIPN(1,3)= 18.10, 18.10, 18.10, 18.10, 18.10, 18.10, 18.10, 18.10, 18.10, 18.10,
      20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90,
CIPN(1,4)= 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80,
      2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80,
CIPN(1,5)= 1.60, 1.60, 1.60, 1.60, 1.60, 1.60, 1.60, 1.60, 1.60, 1.60,
      0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
CIPN(1,6)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
      0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
CIPN(1,7)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
      0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
CIPN(1,8)= 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
      0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
SEND SEMFTR
CIPN(1,1)= 13.10, 13.20, 13.30, 13.30, 13.30, 13.30, 13.30, 13.30, 13.30, 13.30,
      35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40, 35.40,
CIPN(1,2)= 167.00, 168.00, 169.00, 169.00, 169.00, 169.00, 169.00, 169.00, 169.00, 169.00,
      238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00, 238.00,
CIPN(1,3)= 12.50, 12.60, 12.60, 12.60, 12.60, 12.60, 12.60, 12.60, 12.60, 12.60,
      6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80, 6.80,
CIPN(1,4)= .36, .36, .36, .36, .36, .36, .36, .36, .36, .36,
      .36, .36, .36, .36, .36, .36, .36, .36, .36, .36,
CIPN(1,5)= 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61,
      1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61, 1.61,
CIPN(1,6)= 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00,
      78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00, 78.00
    
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    CIPN(1,7) = 14.70, 14.70, 14.70, 14.70, 14.70, 14.70, 14.70,
    CIPN(1,8) = 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
                5.70, 5.70, 5.70, 5.70, 5.70, 5.70, 5.70,
$END
SEMFTR
CIPN(1,1) = 4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
              4.60, 4.60, 4.60, 4.60, 4.60, 4.60, 4.60,
CIPN(1,2) = 20.80, 20.80, 20.80, 20.80, 20.80, 20.80, 20.80,
              20.80, 20.80, 20.80, 20.80, 20.80, 20.80, 20.80,
CIPN(1,3) = 20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90,
              20.90, 20.90, 20.90, 20.90, 20.90, 20.90, 20.90,
CIPN(1,4) = 2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80,
              2.80, 2.80, 2.80, 2.80, 2.80, 2.80, 2.80,
CIPN(1,5) = 2.20, 2.20, 2.26, 2.23, 2.23, 2.23, 2.23,
              2.20, 2.20, 2.20, 2.20, 2.20, 2.20, 2.20,
CIPN(1,6) = 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
              0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
CIPN(1,7) = 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
              0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
CIPN(1,8) = 0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
                0.00, 0.00, 0.00, 0.00, 0.00, 0.00, 0.00,
$END

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LISTING OF NAMELIST NAMELA FOR EFM

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$NAMELA
ICAT=0
KVEH=2
ANNMIL(1)=16350, 15190, 13650, 12000, 10450, 9060, 7770, 6610, 5570, 4650,
      3860, 3189, 2640, 2220, 2000, 2000, 0, 0, 0, 0,
PBPDIS(1,1)= .0165, .0840, .0893, .1604, .1419, .1050, .1094, .0365, .0334, .0301,
      .0269, .0237, .0205, .0173, .0147, .0131, .0773, 0.0000, 0.0000, 0.0000,
POPDIS(1,2)= 0.0000, .0289, .0964, .1733, .1533, .1134, .1182, .2334, .2363, .0325,
      .0290, .0255, .0221, .0186, .0158, .0142, .0834, 0.0000, 0.0000, 0.0000,
POPOIS(1,3)= 0.0000, .0501, .0943, .1694, .1499, .1109, .1155, .0386, .0352, .0318,
      .0284, .0250, .0217, .0182, .0155, .0139, .0816, 0.0000, 0.0000, 0.0000,
POPOIS(1,4)= 0.0000, .0707, .0923, .1659, .1467, .1084, .1130, .0377, .0345, .0311,
      .0278, .0244, .0212, .0178, .0151, .0136, .0798, 0.0000, 0.0000, 0.0000,
COLDOP=20, HNTSOP=27, HOTCOP=53
IYEAR=1975, IREGN=3, NYRS=17, NSESN=4
NPERD=24, NSPD=10, SPDMN=15, DSPD=5
TEMPER(1,1)= 47.3, 45.8, 44.8, 44.5, 44.8, 45.8, 47.3, 49.3, 51.5, 54.0, 56.2, 58.7,
      60.7, 62.2, 63.2, 63.5, 63.2, 62.2, 60.7, 58.8, 56.5, 54.0, 51.5, 49.3,
TEMPER(1,2)= 53.7, 52.5, 51.8, 51.5, 51.8, 52.5, 53.7, 55.3, 57.1, 59.0, 60.9, 62.7,
      64.3, 65.5, 66.2, 66.5, 66.2, 65.5, 64.3, 62.3, 63.9, 59.0, 57.1, 55.3,
TEMPER(1,3)= 64.1, 62.9, 62.2, 62.0, 62.2, 62.2, 62.9, 64.1, 65.5, 67.2, 69.0, 70.9, 72.5,
      73.9, 75.1, 75.8, 76.0, 75.8, 75.1, 73.9, 72.5, 70.3, 69.0, 67.2, 65.5,
TEMPER(1,4)= 59.3, 58.1, 57.3, 57.0, 57.3, 57.0, 58.1, 59.3, 61.0, 62.3, 65.0, 67.1, 69.0,
      70.7, 71.9, 72.7, 73.0, 72.7, 71.9, 70.7, 69.0, 67.2, 65.0, 62.9, 61.0,
SEND
$NAMELA
KVEH=3
ANNMIL(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500, 10000,
      10000, 7370, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
POPDIS(1,1)= .0165, .0840, .0893, .1604, .1420, .1050, .1094, .0393, .0281, .0259,
      .0237, .0215, .0193, .0171, .0153, .0142, .0980, 0.0000, 0.0000, 0.0000,
POPDIS(1,2)= 0.0000, .0289, .0289, .0964, .1731, .1234, .1133, .1182, .0327, .0303, .0283,
      .0256, .0232, .0209, .0185, .0165, .0153, .1057, 0.0000, 0.0000, 0.0000,
POPOIS(1,3)= 0.0000, .0501, .0943, .1694, .1590, .1109, .1155, .0320, .0296, .0274,
      .0251, .0227, .0204, .0180, .0161, .0150, .0135, 0.0000, 0.0000, 0.0000,
POPOIS(1,4)= 0.0000, .0707, .0923, .1657, .1467, .1084, .1130, .0313, .0290, .0268,
      .0245, .0222, .0200, .0177, .0158, .0147, .1112, 0.0000, 0.0000, 0.0000,
COLDOP=20, HNTSOP=27, HOTCOP=53
SEND
$NAMELA
KVEH=3
ANNMIL(1)=78600, 78600, 78600, 72000, 72000, 60200, 60200, 45700, 45700, 39900,
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39900, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.000, 0.054, .0910, .1271, .1298, .0866, .1379, .0380, .0352, .0326,
POPDIS(1,2)=0.000, .0270, .0242, .0214, .0191, .0178, .1231, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,3)=0.000, .0111, .0955, .1337, .1363, .0911, .1450, .0400, .0371, .0342,
POPDIS(1,4)=0.000, .0284, .0255, .0226, .0200, .0187, .1295, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,5)=0.000, .0276, .0940, .1315, .1340, .0896, .1423, .0393, .0364, .0338,
POPDIS(1,6)=0.000, .0281, .0250, .0221, .0198, .0185, .1273, 0.0000, 0.0000, 0.0000, 0.0000,
COLDOP=20, HOTDOP=27, HOTCOP=53
SEND
SNAMELA
KVEH=4
ANNMIL(1)=78600, 78600, 78600, 72000, 72000, 60200, 45700, 45700, 39900,
39900, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.000, .0822, .1496, .1351, .1170, .1008, .0952, .0347, .0328, .0298,
POPDIS(1,2)=0.000, .0239, .0209, .0179, .0160, .0150, .1023, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,3)=0.000, .0154, .1607, .1450, .1256, .1081, .1022, .0372, .0351, .0320,
POPDIS(1,4)=0.000, .0256, .0224, .0192, .0170, .0161, .1097, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,5)=0.000, .0132, .1568, .1416, .1227, .1056, .0999, .0363, .0344, .0312,
POPDIS(1,6)=0.000, .0281, .0250, .0219, .0187, .0167, .0157, .1072, 0.0000, 0.0000, 0.0000, 0.0000,
COLDOP=20, HOTDOP=27, HOTCOP=53
SEND
SNAMELA
KVEH=3
ANNMIL(1)=78600, 78600, 78600, 72000, 72000, 60200, 45700, 45700, 39900,
39900, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.000, .0888, .0612, .0348, .1236, .0792, .1622, .0468, .0432, .0396,
POPDIS(1,2)=0.000, .0360, .0324, .0300, .0264, .0228, .0216, .1514, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,3)=0.000, .0174, .0658, .0372, .1328, .0856, .1736, .0539, .0471, .0434,
POPDIS(1,4)=0.000, .0347, .0323, .0285, .0248, .0236, .1638, 0.0000, 0.0000, 0.0000, 0.0000,
POPDIS(1,5)=0.000, .0417, .0650, .0368, .1301, .0934, .1682, .0491, .0454, .0417,
POPDIS(1,6)=0.000, .0344, .0319, .0282, .0245, .0233, .1583, 0.0000, 0.0000, 0.0000, 0.0000,
COLDOP=20, HOTDOP=27, HOTCOP=53
SEND
SNAMELA
KVEH=4
ANNMIL(1)=78600, 78600, 78600, 72000, 72000, 60200, 45700, 45700, 39900,
```

39900, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
0.0097, 0.0097, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048, 0.0048,
0.0095, 0.0095, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050, 0.0050,
0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099, 0.0099,
0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098, 0.0098,
COLDJP=20, HDTSDP=27, HOTCP=53
SEND

\$NAMELA
KVEH# 3
ANNMIL(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500, 10000,
10000, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
POPDIS(1,1)=0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
0.0387, 0.0354, 0.0317, 0.0281, 0.0248, 0.0232, 0.0232, 0.0232, 0.0232, 0.0232, 0.0232, 0.0232,
POPDIS(1,2)=0.0000, 0.0089, 0.0089, 0.0086, 0.0067, 0.0055, 0.0055, 0.0055, 0.0055, 0.0055, 0.0055, 0.0055,
0.0399, 0.0366, 0.0332, 0.0290, 0.0257, 0.0240, 0.0240, 0.0240, 0.0240, 0.0240, 0.0240, 0.0240,
POPDIS(1,3)=0.0000, 0.0208, 0.0857, 0.0957, 0.0939, 0.0770, 0.0770, 0.0770, 0.0770, 0.0770, 0.0770, 0.0770,
0.0395, 0.0362, 0.0329, 0.0287, 0.0254, 0.0237, 0.0237, 0.0237, 0.0237, 0.0237, 0.0237, 0.0237,
POPDIS(1,4)=0.0000, 0.0333, 0.0844, 0.0942, 0.0942, 0.0779, 0.0757, 0.0757, 0.0757, 0.0757, 0.0757, 0.0757,
0.0391, 0.0358, 0.0321, 0.0284, 0.0251, 0.0235, 0.0235, 0.0235, 0.0235, 0.0235, 0.0235, 0.0235,
COLDJP=20, HDTSDP=27, HOTCP=53
SEND

\$NAMELA
KVEH# 4
ANNMIL(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500, 10000,
10000, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
POPDIS(1,1)=0.0000, 0.0755, 0.1219, 0.1164, 0.1049, 0.0925, 0.0925, 0.0925, 0.0925, 0.0925, 0.0925, 0.0925,
0.0285, 0.0255, 0.0220, 0.0190, 0.0170, 0.0160, 0.0160, 0.0160, 0.0160, 0.0160, 0.0160, 0.0160,
POPDIS(1,2)=0.0000, 0.0145, 0.1293, 0.1239, 0.1115, 0.0986, 0.0986, 0.0986, 0.0986, 0.0986, 0.0986, 0.0986,
0.0305, 0.0274, 0.0237, 0.0201, 0.0181, 0.0170, 0.0170, 0.0170, 0.0170, 0.0170, 0.0170, 0.0170,
POPDIS(1,3)=0.0000, 0.0353, 0.1267, 0.1216, 0.1074, 0.0961, 0.0961, 0.0961, 0.0961, 0.0961, 0.0961, 0.0961,
0.0296, 0.0266, 0.0230, 0.0199, 0.0179, 0.0169, 0.0169, 0.0169, 0.0169, 0.0169, 0.0169, 0.0169,
0.0293, 0.0263, 0.0227, 0.0197, 0.0172, 0.0167, 0.0167, 0.0167, 0.0167, 0.0167, 0.0167, 0.0167,
COLDJP=20, HDTSDP=27, HOTCP=53
SEND

\$NAMELA
KVEH# 2
ANNMIL(1)=16350, 15190, 13650, 12000, 10450, 9050, 7770, 6610, 5570, 4650,

POPDIS(1,1)=0.0000, 3189, 2640, 2220, 2000, 2000, 0, 0, 0,
 POPDIS(1,1)=0.0000, 0751, 1104, 1381, 1272, 0462, 1226, 0474, 0432, 0390,
 POPDIS(1,1)=0.0000, 0349, 0307, 0266, 0223, 0191, 0171, 1001, 0.0000, 0.0000,
 POPDIS(1,2)=0.0000, 0141, 1178, 1474, 1355, 0492, 1308, 0504, 0460, 0417,
 POPDIS(1,3)=0.0000, 0372, 0326, 0283, 0237, 0203, 0182, 1066, 0.0000, 0.0000,
 POPDIS(1,3)=0.0000, 0349, 1152, 1440, 1325, 0483, 1281, 0494, 0450, 0408,
 POPDIS(1,4)=0.0000, 0552, 1128, 1412, 1299, 0473, 1255, 0483, 0441, 0399,
 POPDIS(1,4)=0.0000, 0356, 0313, 0271, 0228, 0194, 0174, 1022, 0.0000, 0.0000,
 COLDOP=20, HOTSUP=27, HOTCOP=53

SEND

SNAMELA
KVEH= 3

ANNML(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500,
 ANNML(1)=10000, 7370, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
 POPDIS(1,1)=0.0000, 0758, 1118, 1398, 1156, 0467, 1242, 0399, 0369, 0340,
 POPDIS(1,2)=0.0000, 0312, 0281, 0263, 0224, 0201, 0186, 1286, 0.0000, 0.0000,
 POPDIS(1,2)=0.0000, 0142, 1192, 1491, 1233, 0498, 1326, 0426, 0393, 0361,
 POPDIS(1,3)=0.0000, 0333, 0301, 0280, 0240, 0214, 0199, 1371, 0.0000, 0.0000,
 POPDIS(1,3)=0.0000, 0352, 1166, 1460, 1206, 0234, 0209, 0195, 1341, 0.0000, 0.0000,
 POPDIS(1,4)=0.0000, 0557, 1142, 1427, 1182, 0476, 1270, 0407, 0377, 0347,
 COLDOP=20, HOTSUP=27, HOTCOP=53

SEND

SNAMELA
KVEH= 3

ANNML(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500,
 ANNML(1)=10000, 7370, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
 POPDIS(1,1)=0.0000, 0655, 0973, 1179, 1343, 0935, 1138, 0390, 0362, 0333,
 POPDIS(1,1)=0.0000, 0305, 0277, 0249, 0221, 0197, 0183, 1260, 0.0000, 0.0000,
 POPDIS(1,2)=0.0000, 0123, 0129, 0129, 0147, 0420, 0988, 1203, 0412, 0382, 0351,
 POPDIS(1,2)=0.0000, 0293, 0263, 0233, 0207, 0194, 1333, 0.0000, 0.0000, 0.0000,
 POPDIS(1,3)=0.0000, 0304, 1009, 1226, 1395, 0969, 1131, 0404, 0376, 0345,
 POPDIS(1,3)=0.0000, 0316, 0287, 0258, 0229, 0203, 0190, 1308, 0.0000, 0.0000,
 POPDIS(1,4)=0.0000, 0481, 0991, 1203, 1369, 0952, 1159, 0397, 0368, 0339,
 COLDOP=20, HOTSUP=27, HOTCOP=53

SEND

SNAMELA
KVEH= 3

ANNML(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500,
 ANNML(1)=19700, 19700, 19700, 18000, 15100, 15100, 11500, 11500,

```

10000, 7370, 7370, 7370, 7370, 7370, 0, 0,
POPDIS(1,1)=0.0000, .0592, .1036, .1097, .0974, .1541, .1603, .0345, .0321, .0296,
.0259, .0234, .0210, .0173, .0166, .0148, .1011, 0.3000, 0.3000, 0.3000,
POPDIS(1,2)=0.0000, .0115, .1108, .1172, .1019, .1630, .1681, .0357, .0331, .0306,
.0268, .0242, .0217, .0178, .0166, .0153, .1057, 0.0006, 0.0000, 0.0000,
POPDIS(1,3)=0.0000, .0277, .1072, .1135, .1209, .1601, .1664, .0353, .0328, .0303,
.0265, .0240, .0214, .0177, .0154, .0151, .1047, 0.0000, 0.0000, 0.0000,
POPDIS(1,4)=0.0000, .0436, .1060, .1122, .0998, .1571, .1508, .0349, .0324, .0299,
COLDOP=20, HOTSDP=27, HOTCP=53
SEND
$NAMELA
KVEH= 3

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```

ANNMIL(1)=19700, 19700, 19700, 18000, 18000, 15100, 15100, 11500, 10000,
10000, 7370, 7370, 7370, 7370, 7370, 0, 0,
POPDIS(1,1)=0.0000, .0380, .1121, .1042, .1049, .1249, .1058, .0365, .0340, .0315,
.0264, .0239, .0214, .0139, .0176, .1210, 0.0000, 0.0000, 0.0000,
POPDIS(1,2)=0.0000, .0169, .1197, .1131, .1131, .1340, .1144, .0390, .0364, .0338,
.0286, .0260, .0234, .0234, .0238, .0195, .1301, 0.0000, 0.0000, 0.0000,
POPDIS(1,3)=0.0000, .0412, .1171, .1107, .1107, .1287, .1120, .0356, .0360, .0350,
.0309, .0283, .0257, .0232, .0193, .0180, .1261, 0.0000, 0.0000, 0.0000,
POPDIS(1,4)=0.0000, .2650, .1146, .1176, .1176, .1287, .1096, .0382, .0344, .0313,
.0293, .0268, .0242, .0242, .0191, .0178, .1249, 0.0000, 0.0000, 0.0000,
COLDOP=20, HOTSDP=27, HOTCP=53
SEND
$NAMELA
KVEH= 4

```

```

ANNMIL(1)=78600, 78600, 78600, 72000, 72000, 60200, 60200, 45700, 45700, 39900,
39900, 29400, 29400, 29400, 29400, 29400, 0, 0,
POPDIS(1,1)=0.0000, .1250, .2231, .1355, .0771, .0806, .0771, .0304, .0292, .0257,
.0234, .0210, .0187, .0152, .0140, .0129, .0911, 0.0000, 0.0000, 0.0000,
POPDIS(1,2)=0.0000, .0242, .2489, .1516, .0857, .0694, .0857, .0338, .0326, .0290,
.0266, .0242, .0205, .0169, .0171, .0145, .1014, 0.0000, 0.0000, 0.0000,
.0265, .0585, .2390, .1458, .0824, .0860, .0824, .0335, .0323, .0275,
.0251, .0227, .0203, .0167, .0155, .0143, .0980, 0.0000, 0.0000, 0.0000,
POPDIS(1,4)=0.0000, .0922, .2316, .1407, .0792, .0827, .0792, .0319, .0319, .0272,
.0248, .0225, .0201, .0154, .0142, .0130, .0946, 0.0000, 0.0000, 0.0000,
COLDOP=20, HOTSDP=27, HOTCP=53
SEND
$NAMELA
KVEH= 2
ANNMIL(1)=16350, 15190, 13650, 12000, 10450, 9050, 7770, 6610, 5570, 4650,
```

POPDIS(1,1)= .0154, .0811, .1406, .2220, 2000, 2000, 0, 0,
 .0287, .0254, .0221, .0185, .0154, .0141, .0822, 0.0000, 0.0000,
 POPDIS(1,2)=0.0000, .0154, .1530, .1964, .1329, .0858, .1054, .0425,
 .0389, .0356, .0320,
 POPDIS(1,3)=0.0000, .0378, .1497, .1923, .1306, .0837, .1029, .0414,
 .0378, .0341,
 POPDIS(1,4)=0.0000, .0597, .1464, .1877, .0982, .0817, .1007, .0434,
 .0371, .0335,
 COLDJP=20, HOTSDP=27, HOTCOP=53

SEND

\$NAMELA
KVEH= 3

ANNML(1)=19700,19700,19700,18000,18000,15100,15100,11500,10000,
 0000, 7370, 7370, 7370, 7370, 7370, 0, 0,
 POPDIS(1,1)= .0158, .0823, .1428, .1677, .0935, .0797, .0983, .0328, .0306,
 .0280,
 POPDIS(1,2)=0.0000, .0233, .0208, .0186, .0164, .0154, .1062, 0.0000, 0.0000,
 .0280,
 POPDIS(1,3)=0.0000, .0156, .1556, .1827, .1045, .0872, .1071, .0358, .0335,
 .0306,
 POPDIS(1,4)=0.0000, .0254, .0228, .0205, .0179, .0169, .1159, 0.0000, 0.0000,
 .0254,
 POPDIS(1,5)=0.0000, .0383, .1520, .1787, .1021, .0850, .1047, .0351, .0325,
 .0325,
 POPDIS(1,6)=0.0000, .0248, .0222, .0200, .0174, .0164, .1134, 0.0000, 0.0000,
 .0248,
 COLDJP=20, HOTSDP=27, HOTCOP=53

SEND

\$NAMELA
KVEH= 3

ANNML(1)=19700,19700,19700,18000,18000,15100,15100,11500,10000,
 0000, 7370, 7370, 7370, 7370, 7370, 0, 0,
 POPDIS(1,1)= .0080, .0849, .1297, .1495, .1111, .0854, .1166, .0325, .0301,
 .0278,
 POPDIS(1,2)=0.0100, .0230, .0208, .0183, .0164, .0154, .1051, 0.0000, 0.0000,
 .0100,
 POPDIS(1,3)=0.0000, .0159, .1406, .1623, .1206, .0926, .1265, .0352, .0326,
 .0302,
 POPDIS(1,4)=0.0000, .0250, .0225, .0199, .0178, .0166, .1141, 0.0000, 0.0000,
 .0000,
 POPDIS(1,5)=0.0269, .0244, .0220, .0194, .0174, .0162, .1113, 0.0000, 0.0000,
 .0269,
 POPDIS(1,6)=0.0000, .0625, .1343, .1544, .1149, .0882, .1206, .0336, .0311,
 .0288,
 COLDJP=20, HOTSDP=27, HOTCOP=53

SEND

\$NAMELA
KVEH= 4

ANNML(1)=19700,19700,19700,18000,18000,15100,15100,11500,10000,

```

10000, 7370, 7370, 7370, 7370, 7370, 7370, 7370, 0, 0, 0,
POPDIS(1,1)=0.0000, .0073, .0880, .1248, .1198, .1541, .1430, .0391, .0379, .0330,
.0306, .0269, .0232, .0208, .0183, .0171, .1161, .0000, .0000, .0000,
POPDIS(1,2)=0.0000, .0013, .0834, .1250, .1212, .1566, .1439, .0391, .0379, .0328,
.0303, .0278, .0227, .0202, .0189, .0177, .1162, .0000, .0000, .0000, .0000,
POPDIS(1,3)=0.0000, .0038, .0888, .1249, .1199, .1549, .1437, .0388, .0375, .0338,
.0300, .0275, .0233, .0200, .0188, .0176, .1163, .0000, .0000, .0000, .0000,
POPDIS(1,4)=0.0000, .0062, .0878, .1248, .1199, .1545, .1433, .0396, .0371, .0334,
.0309, .0272, .0235, .0198, .0185, .0173, .1162, .0000, .0000, .0000, .0000,
COLDOP=20, HOTSDP=27, HOTCDP=53
$END
$NAMELA
KVEH= 3
ANNMIL(1)=78600, 78600, 72000, 60200, 60200, 45700, 45700, 39900,
39900, 29400, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.0000, .0594, .0910, .1271, .1298, .0866, .1379, .0386, .0352, .0326,
.0298, .0270, .0242, .0214, .0191, .0178, .1231, .0000, .0000, .0000, .0000,
POPDIS(1,2)=0.0000, .0111, .0955, .1337, .1363, .0911, .1450, .0400, .0371, .0342,
.0313, .0284, .0255, .0226, .0200, .0187, .1295, .0000, .0000, .0000, .0000,
POPDIS(1,3)=0.0000, .0276, .0940, .1315, .1340, .0846, .1423, .0393, .0364, .0336,
.0307, .0281, .0250, .0221, .0198, .0185, .1273, .0000, .0000, .0000, .0000,
POPDIS(1,4)=0.0000, .0435, .0925, .1292, .1318, .0881, .1400, .0386, .0358, .0332,
.0304, .0276, .0247, .0219, .0193, .0183, .1251, .0000, .0000, .0000, .0000,
COLDOP=20, HOTSDP=27, HOTCDP=53
$END
$NAMELA
KVEH= 4
ANNMIL(1)=78600, 78600, 72000, 72000, 60200, 60200, 45700, 45700, 39900,
39900, 29400, 29400, 29400, 29400, 29400, 0, 0, 0,
POPDIS(1,1)=0.0000, .0822, .1496, .1351, .1170, .1008, .0952, .0347, .0328, .0298,
.0268, .0239, .0209, .0179, .0160, .0150, .1023, .0000, .0000, .0000, .0000,
POPDIS(1,2)=0.0000, .0154, .1607, .1450, .1256, .1081, .1022, .0372, .0351, .0323,
.0256, .0224, .0192, .0170, .0161, .1097, .0000, .0000, .0000, .0000,
POPDIS(1,3)=0.0000, .0382, .1568, .1416, .1227, .1056, .0939, .0363, .0344, .0312,
.0281, .0250, .0219, .0187, .0167, .0157, .1072, .0000, .0000, .0000, .0000,
POPDIS(1,4)=0.0000, .0605, .1531, .1383, .1198, .1031, .0975, .0355, .0335, .0306,
.0274, .0245, .0214, .0183, .0164, .0153, .1046, .0000, .0000, .0000, .0000,
COLDOP=20, HOTSDP=27, HOTCDP=53
$END

```

LISTING OF NAMELIST DATIN FOR ECM

PBDATIN

NSESN=4,	NDAY=2,	NROAD=2,		
PCTVMT=0.5623,	0.4377,	TOTVMT=1.549998E8,	GRJWTH=1.055,	
FSESNF(1,1)=	.9500,	1.0076,	1.0428,	
FSESNF(1,2)=	.9752,	1.0296,	1.0488,	
FSESNF(1,3)=	.8808,	1.0350,	1.0836,	.9464,
FSESNF(1,4)=	.9452,	1.0340,	1.0428,	.9916,
FSESNF(1,5)=	.8368,	1.0128,	1.1938,	.9780,
FSESN(1,1)=	.9740,	.9960,	1.0264,	1.0036,
FSESN(1,2)=	.9740,	.9960,	1.0264,	1.0036,
FSESN(1,3)=	.9740,	.9960,	1.0264,	1.0036,
FSESN(1,4)=	1.0180,	1.0850,	.9160,	.9800,
FSESN(1,5)=	1.0180,	1.0860,	.9160,	.9800,
FDAYS(1,1,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,2,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,3,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,4,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,1,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,2,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,3,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,4,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,1,3)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,2,3)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,3,3)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,4,3)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,1,4)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,2,4)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,3,4)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,4,4)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,1,5)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,2,5)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,3,5)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYS(1,4,5)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,1,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,2,1)=	1.03500,	1.03000,	1.03000,	1.03500,
FDAYF(1,3,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDATE(1,4,1)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,1,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,2,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,3,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,4,2)=	1.00000,	1.00000,	1.00000,	1.00000,
FDAYF(1,1,3)=	1.00000,	1.00000,	1.00000,	1.00000,

FDAYF(1,2,3)=	1.00000,	79424,
FDAYF(1,4,3)=	1.00000,	.80863,
FDAYF(1,4,3)=	1.00000,	.74469,
FDAYF(1,1,4)=	1.00000,	.95399,
FDAYF(1,2,4)=	1.00000,	.96515,
FDAYF(1,3,4)=	1.00000,	.96699,
FDAYF(1,4,4)=	1.00000,	.93750,
FDAYF(1,4,5)=	1.00000,	1.20400,
FDAYF(1,2,5)=	1.00000,	1.28450,
FDAYF(1,3,5)=	1.00000,	1.14100,
FDAYF(1,4,5)=	1.00000,	1.25650,
FTIMEF(1,1,1)=	.016,	.008,
FTIMEF(1,1,1)=	.052,	.059,
FTIMEF(1,2,1)=	.029,	.019,
FTIMEF(1,2,1)=	.051,	.015,
FTIMEF(1,1,2)=	.065,	.064,
FTIMEF(1,1,2)=	.014,	.008,
FTIMEF(1,2,2)=	.056,	.057,
FTIMEF(1,2,2)=	.031,	.021,
FTIMEF(1,1,3)=	.067,	.066,
FTIMEF(1,1,3)=	.048,	.049,
FTIMEF(1,2,3)=	.027,	.018,
FTIMEF(1,2,3)=	.066,	.067,
FTIMEF(1,1,4)=	.011,	.007,
FTIMEF(1,1,4)=	.059,	.058,
FTIMEF(1,2,4)=	.019,	.013,
FTIMEF(1,2,4)=	.068,	.068,
FTIMEF(1,1,5)=	.014,	.012,
FTIMEF(1,2,5)=	.016,	.013,
FTIMEF(1,1,5)=	.065,	.065,
FTIMES(1,1,1)=	.015,	.008,
FTIMES(1,2,1)=	.031,	.021,
FTIMES(1,1,2)=	.015,	.008,
FTIMES(1,1,3)=	.015,	.008,
FTIMES(1,2,3)=	.031,	.021,

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FTIMES(1,1,4)= .066, .066, .064, .067, .366, .063, .056, .045, .046, .039, .035,
FTIMES(1,1,4)= .005, .004, .003, .006, .020, .043, .051, .050, .053, .062, .069,
FTIMES(1,1,4)= .071, .069, .074, .082, .080, .068, .053, .043, .035, .026, .018, .011,
FTIMES(1,1,4)= .014, .009, .005, .003, .005, .010, .020, .031, .044, .059, .072, .079,
FTIMES(1,1,4)= .080, .077, .076, .072, .065, .056, .046, .036, .028, .021, .018,
FTIMES(1,1,5)= .006, .004, .003, .006, .020, .043, .051, .050, .053, .062, .069,
FTIMES(1,1,5)= .071, .069, .074, .082, .080, .068, .053, .043, .035, .026, .018, .014,
IPKSPF(1,1,1)=7*0, 2*1, 6*0, 3*1, 6*0,
IPKSPF(1,1,2)=24*0,
IPKSPF(1,1,2)=7*0, 2*1, 5*0, 4*1, 6*0,
IPKSPF(1,1,2)=24*0,
IPKSPF(1,1,3)=7*0, 2*1, 6*3, 3*1, 6*0,
IPKSPF(1,1,2,3)=24*0,
IPKSPF(1,1,4)=7*0, 1, 6*0, 4*1, 6*0,
IPKSPF(1,1,2,4)=24*0,
IPKSPF(1,1,5)=10*0, 1, 4*0, 3*1, 6*0,
IPKSPF(1,1,2,5)=24*0,
IPKSPS(1,1,1)=7*0, 2*1, 6*0, 3*1, 6*0,
IPKSPS(1,1,2)=24*0,
IPKSPS(1,1,3)=7*0, 2*1, 6*0, 3*1, 6*0,
IPKSPS(1,1,2)=24*0,
IPKSPS(1,1,2)=7*0, 2*1, 6*0, 3*1, 6*0,
IPKSPS(1,1,2)=24*0,
IPKSPS(1,1,3)=7*0, 2*1, 6*0, 3*1, 6*0,
IPKSPS(1,1,2,3)=24*0,
IPKSPS(1,1,4)=11*0, 7*1, 6*0,
IPKSPS(1,1,2,4)=24*0,
IPKSPS(1,1,5)=11*0, 7*1, 6*0,
IPKSPS(1,1,2,5)=24*0,
TNOVEH= 77982, TRIPDY= 9.3, CNOVEH=
VTFAC(1,1,1)= .0191, .0217, .0226, .0214, .0196, .0179, .0918, .0814, .0773, .0795, .0807, .0824,
VTFAC(1,1,1)= .0840, .0862, .0848, .0792, .0729, .0657, .0945, .1037, .1141, .1163, .0162, .0163,
VTFAC(1,1,2,1)= .0062, .0071, .0080, .0089, .0096, .0101, .0070, .00568, .00565, .00563, .00563,
VTFAC(1,1,2,1)= .0553, .0483, .0423, .0386, .0353, .0326, .0393, .0365, .0344, .0331, .0344, .0053,
VTFAC(1,1,3,1)= .0026, .0026, .0026, .0026, .0026, .0026, .0145, .0145, .0145, .0145, .0145, .0145,
VTFAC(1,1,4,1)= .0007, .0007, .0007, .0007, .0007, .0007, .0041, .0041, .0041, .0104, .0138, .0147, .0140,
VTFAC(1,1,4,1)= .0128, .0118, .0104, .0085, .0365, .0404, .0052, .0052, .0052, .0052, .0052, .0052,
VTFAC(1,1,2)= .0190, .0216, .0225, .0213, .0195, .0178, .1156, .1325, .0973, .1030, .1016, .1037,
VTFAC(1,1,2)= .0061, .0071, .0079, .0088, .0096, .0100, .0718, .0715, .0712, .0712, .0709, .0709,
VTFAC(1,1,2)= .0696, .0698, .0532, .0487, .0444, .0411, .0391, .0364, .0342, .0330, .0315, .0382,
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VTFAC(1,3,2)= .0025, .0025, .0025, .0025, .0182, .0182, .0132, .0182, .0182,
              .0182, .0182, .0182, .0182, .0183, .0183, .0183, .0183, .0025,
VTFAC(1,4,2)= .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007,
              .0161, .0149, .0131, .0107, .0082, .0052, .0052, .0052, .0052, .0052, .0052,
$END
$DATIN TNVOEH= 69330, TRIPDY= 9.5, CNOVEH= 44662, 13977, 4056, 6633, 0
VTFAC(1,1,1)= .0203, .0232, .0241, .0228, .0209, .0191, .0973, .0868, .0824, .0848, .0860, .0878,
              .0896, .0920, .0904, .0845, .0775, .0711, .1006, .1106, .1217, .1237, .1173, .0173,
VTFAC(1,2,1)= .0066, .0076, .0085, .0094, .0103, .0108, .0608, .0605, .0603, .0603, .0602, .0602,
              .0590, .0515, .0451, .0442, .0376, .0348, .0419, .0389, .0356, .0353, .0353, .0047, .0057,
VTFAC(1,3,1)= .0027, .0027, .0027, .0027, .0027, .0027, .0155, .0155, .0155, .0155, .0155, .0155,
              .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155,
VTFAC(1,4,1)= .0008, .0008, .0008, .0008, .0008, .0008, .0003, .0003, .0044, .0044, .0114, .0147, .0157, .0149,
              .0137, .0126, .0111, .0093, .0073, .0044, .0056, .0056, .0056, .0056, .0056, .0056,
VTFAC(1,1,2)= .0203, .0231, .0240, .0227, .0209, .0193, .1233, .1093, .1036, .1057, .1083, .1106,
              .1129, .1158, .1139, .1064, .0980, .0895, .1005, .1103, .1213, .1233, .1172, .0173,
VTFAC(1,2,2)= .0066, .0076, .0085, .0094, .0102, .0107, .0766, .0766, .0762, .0759, .0759, .0756, .0756,
              .0743, .0649, .0568, .0519, .0474, .0438, .0413, .0388, .0388, .0365, .0352, .0336, .0408,
VTFAC(1,3,2)= .0027, .0027, .0027, .0027, .0027, .0027, .0195, .0195, .0195, .0195, .0195, .0195,
              .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195,
VTFAC(1,4,2)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0196, .0196, .0196, .0196, .0196,
              .0172, .0159, .0139, .0114, .0188, .0055, .0055, .0055, .0055, .0055, .0055, .0055, .0055, .0055, .0055,
$END
$DATIN TNVOEH= 3433, TRIPDY= 9.5, CNOVEH= 2885, 381, 37, 109,
VTFAC(1,1,1)= .0202, .0230, .0239, .0226, .0208, .0189, .0349, .0443, .0342, .0342, .0643, .0643,
              .0045, .0045, .0045, .0045, .0042, .0039, .0035, .0035, .0050, .0050, .0055, .0055,
VTFAC(1,2,1)= .0065, .0075, .0075, .0075, .0075, .0075, .0102, .0107, .0107, .0107, .0107, .0107,
              .0029, .0026, .0022, .0020, .0019, .0017, .0021, .0021, .0019, .0019, .0019, .0019,
VTFAC(1,3,1)= .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027,
              .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
VTFAC(1,4,1)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
              .0007, .0036, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,
VTFAC(1,1,2)= .0201, .0230, .0238, .0225, .0207, .0189, .0061, .0054, .0052, .0052, .0053, .0053,
              .0055, .0057, .0057, .0057, .0052, .0049, .0044, .0044, .0050, .0050, .0055, .0055,
VTFAC(1,2,2)= .0065, .0075, .0075, .0075, .0075, .0075, .0101, .0101, .0106, .0106, .0033, .0033,
              .0037, .0032, .0028, .0026, .0024, .0024, .0022, .0022, .0021, .0021, .0019, .0019,
VTFAC(1,3,2)= .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0019, .0019,
              .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010,
VTFAC(1,4,2)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0003, .0003,
              .0009, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008

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SEND

\$DATIN

TNOVEH= 13454, TRIPDY= 9.5, CNOVEH= 19523, 1815, 431, 585,

VTFAC(1,1,1)= .3164, .3602, .3743, .3256, .2966, .0762, .0676, .0644, .0650, .0670, .0684,

VTFAC(1,2,1)= .0698, .0716, .0704, .0658, .0605, .0553, .0784, .0861, .0947, .0962, .2647, .2638,

VTFAC(1,3,1)= .1024, .1180, .1321, .1469, .1596, .1674, .0473, .0469, .0469, .0467, .0467,

VTFAC(1,4,1)= .0459, .0401, .0351, .0321, .0293, .0271, .0326, .0303, .0285, .0275, .0727, .0863,

VTFAC(1,5,1)= .0424, .0424, .0424, .0424, .0424, .0424, .0424, .0424, .0424, .0424, .0424,

VTFAC(1,6,1)= .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,

VTFAC(1,7,1)= .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,

VTFAC(1,8,1)= .0106, .0098, .0086, .0073, .0053, .0034, .0034, .0034, .0034, .0034, .0034,

VTFAC(1,9,1)= .3153, .3589, .3730, .3533, .3245, .2956, .0960, .0851, .0808, .0831, .0843, .0861,

VTFAC(1,10,1)= .0880, .3901, .0886, .0828, .0763, .0697, .0782, .0858, .0945, .0960, .2674, .2689,

VTFAC(1,11,1)= .1r21, .1175, .1316, .1464, .1591, .1668, .0593, .0591, .0591, .0588, .0588,

VTFAC(1,12,1)= .0578, .0505, .0442, .0404, .0369, .0341, .0325, .0302, .0284, .0274, .0261, .0317,

VTFAC(1,13,1)= .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0422,

VTFAC(1,14,1)= .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152,

VTFAC(1,15,1)= .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,

VTFAC(1,16,1)= .0124, .0124, .0124, .0124, .0124, .0124, .0124, .0124, .0124, .0124, .0124,

VTFAC(1,17,1)= .0096, .0096, .0096, .0096, .0096, .0096, .0096, .0096, .0096, .0096, .0096,

VTFAC(1,18,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,19,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,20,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,21,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,22,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,23,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

SEND

\$DATIN

TNOVEH= 5723, TRIPDY= 9.5, CNOVEH= 4766, 590, 145, 222,

VTFAC(1,1,1)= .0017, .0020, .0021, .0020, .0018, .0016, .0032, .0028, .0027, .0028, .0029,

VTFAC(1,2,1)= .0029, .0030, .0029, .0028, .0025, .0023, .0020, .0022, .0024, .0024, .0025,

VTFAC(1,3,1)= .0006, .0006, .0007, .0007, .0003, .0009, .0009, .0009, .0020, .0020, .0020,

VTFAC(1,4,1)= .0019, .0017, .0015, .0015, .0013, .0012, .0011, .0008, .0008, .0007, .0007,

VTFAC(1,5,1)= .0022, .0002, .0002, .0002, .0002, .0002, .0005, .0005, .0005, .0005, .0005,

VTFAC(1,6,1)= .0005, .0005, .0005, .0005, .0005, .0005, .0004, .0004, .0004, .0004, .0004,

VTFAC(1,7,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,

VTFAC(1,8,1)= .0004, .0004, .0004, .0004, .0004, .0004, .0001, .0001, .0001, .0001, .0001,

VTFAC(1,9,1)= .0025, .0029, .0030, .0028, .0026, .0024, .0040, .0036, .0034, .0034, .0036,

VTFAC(1,10,1)= .0037, .0038, .0037, .0035, .0032, .0029, .0024, .0027, .0027, .0029, .0029,

VTFAC(1,11,1)= .0008, .0009, .0010, .0012, .0013, .0013, .0025, .0025, .0025, .0025, .0025,

VTFAC(1,12,1)= .0024, .0021, .0019, .0017, .0015, .0014, .0010, .0009, .0009, .0009, .0010,

VTFAC(1,13,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,14,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,15,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,16,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,17,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,18,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,19,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,20,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,21,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,22,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,23,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

VTFAC(1,24,1)= .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006, .0006,

SEND

\$DATIN

TNOVEH= 1437, TRIPDY= 9.5, CNOVEH= 1389, 313, 35, 35,

VTFAC(1,1,1)= .0017, .0020, .0021, .0018, .0016, .0016, .0028, .0028, .0028, .0028,

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    .0029, .0030, .0029, .0027, .0025, .0023, .0019, .0021, .0023, .0015, .0015,
VTFAC(1,2,1)= .0006, .0007, .0007, .0003, .0013, .0009, .0020, .0020, .0019, .0019,
    .0119, .0017, .0015, .0012, .0011, .0008, .0007, .0007, .0004, .0005,
VTFAC(1,3,1)= .0002, .0002, .0002, .0002, .0002, .0002, .0005, .0005, .0005, .0005,
    .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
    .0004, .0004, .0004, .0003, .0003, .0002, .0001, .0001, .0001, .0001,
VTFAC(1,1,2)= .0025, .0029, .0030, .0028, .0026, .0024, .0040, .0035, .0034, .0035,
    .0036, .0037, .0037, .0034, .0032, .0029, .0024, .0026, .0029, .0029,
VTFAC(1,2,2)= .0008, .0009, .0010, .0012, .0013, .0013, .0025, .0025, .0025, .0025,
    .0024, .0021, .0018, .0017, .0015, .0014, .0010, .0009, .0009, .0008, .0008,
VTFAC(1,3,2)= .0003, .0003, .0003, .0003, .0003, .0003, .0006, .0006, .0006, .0006,
    .0006, .0006, .0006, .0006, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,2)= .0011, .0011, .0001, .0001, .0001, .0001, .0002, .0002, .0002, .0002,
    .0006, .0005, .0004, .0004, .0001, .0001, .0001, .0001, .0001, .0001,
SEND
$DATAIN
TNOVEH= 2417, TRIPDY= 9.5, CNDVEH= 1624, 515, 102, 176,
VTFAC(1,1,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.031, .0032, .0032, .0030, .0027, .0025, .0020, .0000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,2,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.021, .0018, .0016, .0014, .0013, .0012, .0010, .0000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,3,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    .0005, .0004, .0004, .0004, .0003, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,2)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,2,2)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,3,2)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,4,2)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    .000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
$END
$DATAIN
TNOVEH= 1969, TRIPDY= 9.5, CNDVEH= 1363, 372, 89,
VTFAC(1,1,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    .0102, .0105, .0103, .0095, .0088, .0081, .0000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,2,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    .0067, .0059, .0051, .0047, .0043, .0040, .0000, 0.000, 0.000, 0.000, 0.000,
VTFAC(1,3,1)= 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000,
    .0018, .0018, .0018, .0018, .0018, .0018, .0000, 0.000, 0.000, 0.000, 0.000,

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VTFACT(1,4,1) =	0.0000,0.0000,0.0000,0.0000,	0.0018,0.0018,0.0018,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,4,2) =	0.0016,0.0014,0.0013,	0.0018,0.0018,0.0018,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,1,1) =	0.0000,0.0000,0.0000,0.0000,	0.0003,0.0003,0.0003,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,1,2) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,2,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,2,2) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,3,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,3,2) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,4,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,4,2) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
SEND				
SDATIN				
TNOVEH= 6854, TRIPDY= 9.3, CNOVEH= 4931,	1089,	339,	445,	
VTFACT(1,1,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,1,2) =	0.0074,0.0076,0.0074,	0.0070,0.0064,0.0064,	0.0059,0.0059,0.0059,0.0059,	0.0059,0.0059,0.0059,0.0059,
VTFACT(1,2,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,2,2) =	0.0049,0.0042,0.0042,	0.0037,0.0034,0.0034,	0.0029,0.0029,0.0029,0.0029,	0.0029,0.0029,0.0029,0.0029,
VTFACT(1,3,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,3,2) =	0.0013,0.0013,0.0013,	0.0013,0.0013,0.0013,	0.0013,0.0013,0.0013,0.0013,	0.0013,0.0013,0.0013,0.0013,
VTFACT(1,4,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,4,2) =	0.0011,0.0011,0.0011,	0.0009,0.0007,0.0006,	0.0004,0.0004,0.0004,0.0004,	0.0004,0.0004,0.0004,0.0004,
SEND				
SDATIN				
TNOVEH= 6019, TRIPDY= 9.5, CNOVEH= 4375,	956,	297,	391,	
VTFACT(1,1,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,1,2) =	0.0078,0.0080,	0.0079,0.0073,	0.0068,0.0062,0.0062,0.0062,	0.0068,0.0062,0.0062,0.0062,
VTFACT(1,2,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,2,2) =	0.0051,0.0045,	0.0039,0.0033,	0.0036,0.0033,0.0033,0.0033,	0.0036,0.0033,0.0033,0.0033,
VTFACT(1,3,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,3,2) =	0.0013,0.0013,	0.0013,0.0013,	0.0013,0.0013,0.0013,0.0013,	0.0013,0.0013,0.0013,0.0013,
VTFACT(1,4,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,
VTFACT(1,4,2) =	0.0012,0.0012,	0.0011,0.0010,	0.0008,0.0007,0.0007,0.0007,	0.0008,0.0007,0.0007,0.0007,
VTFACT(1,1,1) =	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,	0.0000,0.0000,0.0000,0.0000,

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THE ENVIRONMENT

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$DATIN
TNOVEH= 3567, TRIPDY= 9.3, CNDVEH= 2719, 622, 84, 142,
VTFAC(1,1,1)= .0009, .0011, .C311, .0011, .0039, .0036, .0034, .0031, .0043, .0048, .0052, .0053, .0058, .0008,
VTFAC(1,2,1)= .0003, .0004, .0004, .0004, .0004, .0005, .0005, .0005, .0005, .0026, .0026, .0026, .0026,
VTFAC(1,3,1)= .0025, .0022, .0019, .0018, .0016, .0015, .0015, .0018, .0017, .0017, .0016, .0015, .0002, .0003,
VTFAC(1,4,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0007, .0007, .0007, .0007, .0007,
VTFAC(1,4,2)= .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
VTFAC(1,2,2)= .0006, .0005, .0005, .0005, .0005, .0005, .0005, .0003, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,2,3)= .0010, .0011, .0011, .0011, .0011, .0011, .0010, .0010, .0010, .0053, .0053, .0045, .0046, .0047, .0048,
VTFAC(1,4,2)= .0049, .0050, .0049, .0049, .0045, .0042, .0039, .0043, .0043, .0052, .0053, .0008, .0008,
VTFAC(1,2,2)= .0003, .0003, .0004, .0004, .0004, .0004, .0004, .0005, .0005, .0005, .0033, .0033, .0033, .0033, .0033,
VTFAC(1,3,2)= .0032, .0028, .0025, .0022, .0022, .0019, .0019, .0018, .0017, .0017, .0016, .0015, .0015, .0015, .0015,
VTFAC(1,4,3)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0008, .0008, .0008, .0008, .0008, .0008,
VTFAC(1,4,2)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
VTFAC(1,2,2)= .0007, .0007, .0006, .0005, .0005, .0005, .0005, .0005, .0005, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,2)= .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0037, .0037, .0037, .0037, .0037, .0037, .0037,
VTFAC(1,1,1)= .0009, .0011, .0011, .0011, .0011, .0011, .0010, .0010, .0010, .0044, .0044, .0044, .0044, .0044, .0044, .0044,
VTFAC(1,2,3)= .0003, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0045, .0045, .0045, .0045, .0045, .0045, .0045,
VTFAC(1,2,2)= .0027, .0023, .0020, .0019, .0019, .0017, .0016, .0016, .0019, .0019, .0017, .0016, .0016, .0016, .0016, .0016,
VTFAC(1,3,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0037, .0037, .0037, .0037, .0037, .0037, .0037,
VTFAC(1,4,4)= .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0009, .0009, .0009, .0009, .0009, .0009, .0009,
VTFAC(1,2,2)= .0003, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,2)= .0010, .0011, .0011, .0011, .0011, .0011, .0010, .0010, .0010, .0055, .0055, .0055, .0055, .0055, .0055, .0055,
VTFAC(1,1,1)= .0051, .0052, .0051, .0048, .0048, .0048, .0048, .0048, .0048, .0045, .0045, .0045, .0045, .0045, .0045, .0045,
VTFAC(1,2,3)= .0033, .0029, .0026, .0026, .0026, .0026, .0026, .0026, .0026, .0019, .0019, .0016, .0016, .0016, .0016, .0016,
VTFAC(1,3,2)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0009, .0009, .0009, .0009, .0009, .0009, .0009,
VTFAC(1,4,2)= .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009,
VTFAC(1,1,2)= .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,1)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0002, .0002, .0002, .0002, .0002, .0002, .0002
$END
$DATIN
TNOVEH= 3122, TRIPDY= 9.5, CNDVEH= 2379, 545, 74, 124,
VTFAC(1,1,1)= .0009, .0011, .C311, .0011, .0041, .0041, .0041, .0041, .0041, .0035, .0035, .0032, .0032, .0045, .0045, .0050, .0050,
VTFAC(1,2,1)= .0003, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0005, .0005, .0005, .0005, .0005, .0005, .0027, .0027,
VTFAC(1,3,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0037, .0037, .0037, .0037, .0037, .0037, .0037, .0037,
VTFAC(1,4,1)= .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0009, .0009, .0009, .0009, .0009, .0009, .0027, .0027,
VTFAC(1,2,2)= .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,2)= .0010, .0011, .0011, .0011, .0011, .0011, .0010, .0010, .0010, .0049, .0049, .0049, .0049, .0049, .0049, .0049, .0049,
VTFAC(1,1,1)= .0051, .0052, .0051, .0048, .0048, .0048, .0048, .0048, .0048, .0045, .0045, .0045, .0045, .0045, .0045, .0045, .0045,
VTFAC(1,2,3)= .0003, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0005, .0005, .0005, .0005, .0005, .0005, .0034, .0034,
VTFAC(1,3,2)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0017, .0017, .0016, .0016, .0016, .0016, .0016, .0016,
VTFAC(1,4,2)= .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009, .0009,
VTFAC(1,1,2)= .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0000, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
VTFAC(1,1,1)= .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002
$END
$DATIN
TNOVEH= 14668, TRIPDY= 9.5, CNDVEH= 11731, 2200, 265, 502,
VTFAC(1,1,1)= 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000, 0.0000,
VTFAC(1,2,1)= 0.0190, 0.0195, .0191, .0179, .0150, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165, .0165

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VTFAC(1,2,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0125,0.0109,0.0095,0.0087,0.0085,0.0074,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,3,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0033,0.0033,0.0033,0.0033,0.0033,0.0033,0.0033,0.0033,0.0033,0.0033,
VTFAC(1,4,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0029,0.0027,0.0023,0.0019,0.0015,0.0009,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,1,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,2,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,3,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,4,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,

SEND

SDATIN

TNOVEH= 805, TRIPDY= 9.5, CNJVEH= 725, 41, 15, 29,
VTFAC(1,1,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0042,0.0043,0.0042,0.0039,0.0036,0.0033,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,2,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0027,0.0024,0.0021,0.0019,0.0013,0.0016,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,3,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0007,0.0007,0.0007,0.0007,0.0007,0.0007,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,4,1) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0006,0.0006,0.0005,0.0004,0.0003,0.0002,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,1,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,2,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,3,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
VTFAC(1,4,2) = 0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,
0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,0.0000,

SEND

SDATIN

TNOVEH= 429, TRIPDY= 9.5, CNJVEH= 360, 48, 7, 14,
VTFAC(1,1,1) = 0.025, 0.029, 0.030, 0.030, 0.030, 0.030, 0.030, 0.030, 0.030, 0.030,
0.0006, 0.0006, 0.0006, 0.0006, 0.0005, 0.0005, 0.0004, 0.0004, 0.0004, 0.0004,
VTFAC(1,2,1) = 0.0058, 0.009, 0.010, 0.012, 0.013, 0.013, 0.004, 0.004, 0.004, 0.004,
0.004, 0.003, 0.003, 0.002, 0.002, 0.002, 0.002, 0.002, 0.002, 0.002, 0.002,
VTFAC(1,3,1) = 0.003, 0.003, 0.003, 0.003, 0.003, 0.003, 0.003, 0.003, 0.003, 0.003,
0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001,
0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001,

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VTFAC(1,4,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,1,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,1,2)= .0025, .0029, .0030, .0028, .0026, .0024, .0008, .0007, .0006, .0007, .0007, .0007, .0007, .0007, .0007,
VTFAC(1,2,2)= .0007, .0007, .0007, .0007, .0007, .0006, .0006, .0057, .0057, .0057, .0057, .0057, .0057, .0057, .0057, .0057,
VTFAC(1,3,2)= .0005, .0004, .0004, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003,
VTFAC(1,4,2)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,1,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,1,2)= .0017, .0011, .0011, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
SEND
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$DATIN TNOVEH= 9.5, CNOVEH= 1313, 227, 54, 86,
VTFAC(1,1,1)= .0395, .0449, .0467, .0442, .03406, .0370, .0095, .0094, .0084, .0082, .0084, .0085,
VTFAC(1,2,1)= .0087, .0089, .0088, .0082, .0076, .0069, .0098, .0107, .0118, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,
VTFAC(1,3,1)= .0057, .0050, .0044, .0043, .0037, .0034, .0041, .0038, .0036, .0034, .0091, .0091, .0091, .0091, .0091, .0091, .0091, .0091, .0091,
VTFAC(1,4,1)= .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015,
VTFAC(1,1,2)= .0013, .0012, .0011, .0009, .0007, .0004, .0005, .0005, .0004, .0004, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019,
VTFAC(1,2,2)= .0110, .0112, .0111, .0103, .0095, .0087, .0098, .0107, .0118, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,
VTFAC(1,3,2)= .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019,
VTFAC(1,4,2)= .0017, .0016, .0014, .0011, .0009, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
SEND
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LISTING OF NAMELIST DATIN FOR ECMPLT

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      &DATIN
      NSESN=4, NDAY=2, NROAD=2, NSPD=10, NPERD=24,
      GROWTH=1.055, TOTVMT=1.549908E8,
      MODE=3, PCTVMT=0.5623, Q.4377, NXGRID=22, NYGRID=17,
      ITYPEG(1,1)=2*5,
      ITYPEG(1,2)=10*5, 1, 11*5,
      ITYPEG(1,3)=9*5, 2*1, 11*5,
      ITYPEG(1,4)=8*5, 3, 2*1, 11*5,
      ITYPEG(1,5)=4*5, 5*3, 2*1, 11*5,
      ITYPEG(1,6)=5*5, 6*1, 11*5,
      ITYPEG(1,7)=6*5, 7*1, 11*5,
      ITYPEG(1,8)=4*4, 8*2, 3*4, 7*5,
      ITYPEG(1,9)=4*4, 3*3, 5*2, 5*4, 5*5,
      ITYPEG(1,10)=4*4, 4*3, 4*5, 5*4, 5*5,
      ITYPEG(1,11)=3*5, 5*3, 14*5,
      ITYPEG(1,12)=3*5, 3*3, 16*5,
      ITYPEG(1,13)=22*5,
      ITYPEG(1,14)=22*5,
      ITYPEG(1,15)=22*5,
      ITYPEG(1,16)=22*5,
      ITYPEG(1,17)=22*5,
      FSESNF(1,1)= .9500, 1.0076, 1.0428, .9996,
      FSESNF(1,2)= .9752, 1.0296, 1.0488, .9444,
      FSESNF(1,3)= .8889, 1.0360, 1.0836, .9916,
      FSESNF(1,4)= .9452, 1.0340, 1.0428, .9780,
      FSESNF(1,5)= .8368, 1.0128, 1.1988, .9516,
      FSESNF(1,6)= .9740, .9960, 1.0264, .0036,
      FSESNF(1,7)= .9740, .9960, 1.0264, .0036,
      FSESNF(1,8)= .9740, .9960, 1.0264, .0036,
      FSESNF(1,9)= 1.0180, 1.0360, .9160, .9800,
      FSESNF(1,10)= 1.0180, 1.0360, .9160, .9800,
      FDAYS(1,1,1)= 1.00000, .77225,
      FDAYS(1,2,1)= 1.00000, .77654,
      FDAYS(1,3,1)= 1.00000, .78947,
      FDAYS(1,4,1)= 1.00000, .75098,
      FDAYS(1,5,1)= 1.00000, .77225,
      FDAYS(1,6,1)= 1.00000, .77654,
      FDAYS(1,7,2)= 1.00000, .78947,
      FDAYS(1,8,2)= 1.00000, .75098,
      FDAYS(1,9,2)= 1.00000, .77225,
      FDAYS(1,10,2)= 1.00000, .77654,
      FDAYS(1,11,3)= 1.00000, .78947,
```

FDAYS(1,4,3)=	1.00000,	.75098,
FDAYS(1,1,4)=	1.00000,	.88295,
FDAYS(1,2,4)=	1.00000,	.85121,
FDAYS(1,3,4)=	1.00000,	.86927,
FDAYS(1,4,4)=	1.00000,	.82447,
FDAYS(1,1,5)=	1.00000,	.88295,
FDAYS(1,2,5)=	1.00000,	.95121,
FDAYS(1,3,5)=	1.00000,	.86927,
FDAYS(1,4,5)=	1.00000,	.82447,
FDAYF(1,1,1)=	1.00000,	.83559,
FDAYF(1,2,1)=	1.00000,	.85121,
FDAYF(1,3,1)=	1.00000,	.85916,
FDAYF(1,4,1)=	1.00000,	.82144,
FDAYF(1,1,2)=	1.00000,	.81867,
FDAYF(1,2,2)=	1.00000,	.83780,
FDAYF(1,3,2)=	1.00000,	.84569,
FDAYF(1,4,2)=	1.00000,	.81117,
FDAYF(1,1,3)=	1.00000,	.73410,
FDAYF(1,2,3)=	1.00000,	.79424,
FDAYF(1,3,3)=	1.00000,	.80863,
FDAYF(1,4,3)=	1.00000,	.74463,
FDAYF(1,1,4)=	1.00000,	.95399,
FDAYF(1,2,4)=	1.00000,	.96515,
FDAYF(1,3,4)=	1.00000,	.96698,
FDAYF(1,4,4)=	1.00000,	.93750,
FDAYF(1,1,5)=	1.00000,	.20400,
FDAYF(1,2,5)=	1.00000,	.1.28450,
FDAYF(1,3,5)=	1.00000,	.1.14100,
FDAYF(1,4,5)=	1.00000,	.1.25655,
FTIMEF(1,1,1)=	.016,	.008,
FTIMEF(1,1,2)=	.014,	.008,
FTIMEF(1,1,3)=	.013,	.007,
FTIMEF(1,2,1)=	.051,	.052,
FTIMEF(1,2,2)=	.056,	.057,
FTIMEF(1,2,3)=	.029,	.019,
FTIMEF(1,3,1)=	.065,	.064,
FTIMEF(1,3,2)=	.031,	.021,
FTIMEF(1,3,3)=	.067,	.066,
FTIMEF(1,3,4)=	.013,	.016,
FTIMEF(1,4,1)=	.048,	.049,
FTIMEF(1,4,2)=	.027,	.018,
FTIMEF(1,4,3)=	.066,	.067,
FTIMEF(1,4,4)=	.011,	.013,
FTIMEF(1,4,5)=	.065,	.065,
FTIMEF(1,1,6)=	.005,	.004,
FTIMEF(1,2,6)=	.008,	.005,
FTIMEF(1,3,6)=	.006,	.009,
FTIMEF(1,4,6)=	.004,	.005,
FTIMEF(1,5,1)=	.063,	.063,
FTIMEF(1,5,2)=	.069,	.069,
FTIMEF(1,5,3)=	.065,	.065,
FTIMEF(1,5,4)=	.013,	.013,
FTIMEF(1,5,5)=	.049,	.049,
FTIMEF(1,5,6)=	.065,	.065,
FTIMEF(1,6,1)=	.057,	.057,
FTIMEF(1,6,2)=	.046,	.046,
FTIMEF(1,6,3)=	.067,	.067,
FTIMEF(1,6,4)=	.018,	.018,
FTIMEF(1,6,5)=	.027,	.027,
FTIMEF(1,6,6)=	.036,	.036,
FTIMEF(1,7,1)=	.057,	.057,
FTIMEF(1,7,2)=	.066,	.066,
FTIMEF(1,7,3)=	.016,	.016,
FTIMEF(1,7,4)=	.057,	.057,
FTIMEF(1,7,5)=	.084,	.084,
FTIMEF(1,7,6)=	.028,	.028,
FTIMEF(1,7,7)=	.046,	.046,
FTIMEF(1,8,1)=	.059,	.059,
FTIMEF(1,8,2)=	.033,	.033,
FTIMEF(1,8,3)=	.027,	.027,
FTIMEF(1,8,4)=	.036,	.036,
FTIMEF(1,8,5)=	.069,	.069,
FTIMEF(1,8,6)=	.046,	.046,
FTIMEF(1,8,7)=	.040,	.040,
FTIMEF(1,8,8)=	.058,	.058,
FTIMEF(1,9,1)=	.053,	.053,
FTIMEF(1,9,2)=	.030,	.030,
FTIMEF(1,9,3)=	.023,	.023,
FTIMEF(1,9,4)=	.024,	.024,
FTIMEF(1,9,5)=	.055,	.055,
FTIMEF(1,9,6)=	.062,	.062,
FTIMEF(1,9,7)=	.056,	.056,
FTIMEF(1,9,8)=	.052,	.052,
FTIMEF(1,9,9)=	.034,	.034,
FTIMEF(1,10,1)=	.050,	.050,
FTIMEF(1,10,2)=	.035,	.035,
FTIMEF(1,10,3)=	.048,	.048,
FTIMEF(1,10,4)=	.024,	.024,
FTIMEF(1,10,5)=	.020,	.020,
FTIMEF(1,10,6)=	.027,	.027,
FTIMEF(1,10,7)=	.032,	.032,
FTIMEF(1,10,8)=	.027,	.027,
FTIMEF(1,10,9)=	.054,	.054,
FTIMEF(1,10,10)=	.057,	.057,

FTIMEF(1,2,4)=	.059,	.058,	.063,	.072,	.078,	.077,	.057,	.044,	.036,	.034,	.025,	.019,
FTIMEF(1,1,5)=	.019,	.013,	.010,	.007,	.006,	.009,	.018,	.030,	.039,	.053,	.061,	.066,
FTIMEF(1,1,4)=	.068,	.068,	.070,	.073,	.074,	.072,	.062,	.052,	.042,	.035,	.029,	.023,
FTIMEF(1,2,5)=	.014,	.012,	.010,	.010,	.013,	.021,	.036,	.047,	.052,	.059,	.063,	.062,
FTIMEF(1,1,2)=	.059,	.060,	.062,	.068,	.068,	.073,	.067,	.054,	.043,	.036,	.032,	.026,
FTIMEF(1,2,1)=	.016,	.012,	.009,	.008,	.008,	.012,	.020,	.028,	.041,	.053,	.063,	.066,
FTIMEF(1,1,1)=	.065,	.065,	.070,	.075,	.078,	.075,	.066,	.052,	.061,	.033,	.026,	.019,
FTIMES(1,1,2)=	.315,	.008,	.005,	.004,	.005,	.014,	.052,	.070,	.063,	.055,	.052,	.054,
FTIMES(1,1,3)=	.054,	.056,	.062,	.072,	.073,	.070,	.058,	.043,	.043,	.033,	.031,	.029,
FTIMES(1,2,1)=	.031,	.021,	.017,	.009,	.017,	.009,	.018,	.026,	.035,	.044,	.052,	.063,
FTIMES(1,1,2)=	.066,	.066,	.064,	.067,	.066,	.064,	.064,	.063,	.063,	.065,	.040,	.035,
FTIMES(1,1,4)=	.015,	.008,	.005,	.004,	.005,	.014,	.052,	.070,	.063,	.055,	.052,	.054,
FTIMES(1,2,2)=	.031,	.021,	.017,	.009,	.009,	.007,	.009,	.018,	.026,	.035,	.044,	.060,
FTIMES(1,1,3)=	.066,	.066,	.064,	.067,	.066,	.064,	.064,	.063,	.063,	.065,	.045,	.035,
FTIMES(1,1,5)=	.015,	.008,	.005,	.004,	.005,	.014,	.052,	.070,	.063,	.055,	.052,	.054,
FTIMES(1,2,3)=	.034,	.056,	.062,	.072,	.073,	.073,	.070,	.058,	.043,	.033,	.031,	.029,
FTIMES(1,1,4)=	.031,	.021,	.017,	.009,	.007,	.009,	.018,	.026,	.035,	.044,	.052,	.054,
FTIMES(1,1,2)=	.066,	.066,	.064,	.067,	.066,	.064,	.064,	.063,	.063,	.065,	.040,	.035,
FTIMES(1,1,1)=	.006,	.004,	.003,	.003,	.003,	.003,	.003,	.003,	.003,	.003,	.003,	.003,
FTIMES(1,2,4)=	.071,	.069,	.074,	.082,	.080,	.080,	.068,	.053,	.043,	.035,	.026,	.019,
FTIMES(1,1,5)=	.014,	.009,	.005,	.003,	.005,	.010,	.020,	.031,	.042,	.059,	.072,	.079,
FTIMES(1,1,3)=	.080,	.077,	.076,	.076,	.072,	.065,	.056,	.046,	.036,	.028,	.021,	.018,
FTIMES(1,1,2)=	.006,	.004,	.003,	.003,	.003,	.006,	.026,	.043,	.051,	.050,	.053,	.062,
FTIMES(1,1,1)=	.071,	.069,	.074,	.082,	.080,	.080,	.068,	.053,	.043,	.035,	.026,	.019,
FTIMES(1,2,5)=	.014,	.009,	.005,	.003,	.005,	.010,	.020,	.031,	.044,	.059,	.072,	.079,
IPKSPF(1,1,1)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPF(1,1,2)=	.24*0,											
IPKSPF(1,1,3)=	.7*0,	.1,	.6*0,	.4*1,	.6*0,							
IPKSPF(1,1,4)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPF(1,1,5)=	.24*0,											
IPKSPF(1,2,1)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPF(1,2,2)=	.24*0,											
IPKSPF(1,2,3)=	.24*0,											
IPKSPF(1,2,4)=	.7*0,	.1,	.6*0,	.4*1,	.6*0,							
IPKSPF(1,2,5)=	.24*0,											
IPKSPS(1,1,1)=	.10*0,	.1,	.4*0,	.3*1,	.6*0,							
IPKSPS(1,1,2)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPS(1,1,3)=	.24*0,											
IPKSPS(1,1,4)=	.24*0,											
IPKSPS(1,1,5)=	.10*0,	.1,	.4*0,	.3*1,	.6*0,							
IPKSPS(1,2,1)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPS(1,2,2)=	.24*0,											
IPKSPS(1,2,3)=	.24*0,											
IPKSPS(1,2,4)=	.7*0,	.1,	.6*0,	.3*1,	.6*0,							
IPKSPS(1,2,5)=	.24*0,											
IPKSPS(1,1,1)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPS(1,1,3)=	.7*0,	.1,	.4*0,	.3*1,	.6*0,							
IPKSPS(1,1,5)=	.24*0,											
IPKSPS(1,1,2)=	.7*0,	.2*1,	.6*0,	.3*1,	.6*0,							
IPKSPS(1,1,4)=	.24*0,											
IPKSPS(1,1,6)=	.24*0,											

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IPKSPS(1,2,3)=24*0,
IPKSPS(1,1,4)=11*0, 7*1, 6*0,
IPKSPS(1,2,4)=24*0,
IPKSPS(1,1,5)=11*0, 7*1, 6*0,
IPKSPS(1,2,5)=24*0,
POP6(1,1)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
2.03E-03, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,2)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
4.51E-04, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,3)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,4)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
2.37E-03, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
4.51E-04, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,5)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
1.27E-02, 1.69E-02, 1.72E-02, 1.63E-02, 1.69E-02, 1.69E-02,
2.25E-04, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
3.38E-03, 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,6)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
2.32E-02, 2.69E-02, 2.40E-02, 2.42E-02, 2.42E-02, 2.42E-02,
2.70E-03, 5.63E-04, 3.38E-04, 4.51E-04, 4.51E-04, 4.51E-04,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,7)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
4.96E-02, 3.27E-02, 2.48E-02, 1.06E-02, 1.06E-02, 1.06E-02,
2.48E-03, 6.42E-03, 6.76E-03, 2.03E-03, 2.03E-03, 2.03E-03,
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
POP6(1,8)=
0., 0., 0., 0., 0., 0., 0., 0., 0., 0.,
6.76E-04, 2.48E-03, 3.82E-02, 4.48E-02,
```

$4.63E-02$	$2.70E-02$	$1.69E-02$	$1.48E-02$	$5.18E-03$	$8.22E-03$
$1.69E-03$	$2.14E-03$	$5.63E-03$	$2.59E-03$	$2.03E-03$	$1.92E-03$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,9) =$					
$0.$	$0.$	$1.01E-03$	$2.03E-03$	$1.01E-02$	$1.87E-02$
$3.39E-02$	$1.60E-02$	$1.36E-02$	$1.92E-02$	$9.01E-03$	$1.30E-02$
$6.65E-03$	$3.04E-03$	$9.46E-03$	$1.35E-02$	$2.48E-03$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,10) =$					
$0.$	$0.$	$6.31E-03$	$2.26E-02$	$2.67E-02$	$2.13E-02$
$1.23E-02$	$9.35E-03$	$1.69E-03$	$0.$	$0.$	$0.$
$0.$	$0.$	$3.38E-04$	$2.25E-03$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,11) =$					
$0.$	$0.$	$0.$	$4.28E-03$	$1.88E-02$	$3.49E-03$
$1.69E-03$	$0.$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,12) =$					
$0.$	$0.$	$0.$	$1.56E-03$	$5.63E-04$	$1.13E-04$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,13) =$					
$0.$	$0.$	$1.13E-04$	$7.89E-04$	$2.14E-03$	$2.25E-04$
$1.13E-04$	$1.13E-04$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,14) =$					
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$1.13E-04$	$0.$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,15) =$					
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$\text{POPG}(1,16) =$					
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$
$0.$	$0.$	$0.$	$0.$	$0.$	$0.$

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POP6(1,17)=
0.      , 0.      , 0.      , 0.      , 0.      , 0.      , 0.      ,
0.      , 0.      , 0.      , 0.      , 0.      , 0.      , 0.      ,
0.      , 0.      , 0.      , 0.      , 0.      , 0.      , 0.      ,
0.      , 0.      , 0.      , 0.      , 0.      , 0.      , 0.      ,
JTYPEG(1,1)=11*3, 1, 1, 9*3
JTYPEG(1,2)=11*3, 1, 1, 9*3
JTYPEG(1,3)=11*3, 1, 10*3
JTYPEG(1,4)=8*3, 3*2, 1, 10*3
JTYPEG(1,5)=6*3, 5*2, 7*3, 2, 3*3
JTYPEG(1,6)=5*3, 6*2, 3, 2, 9*3
JTYPEG(1,7)=4*3, 6*2, 3, 3, 4*2, 1, 1, 4*3
JTYPEG(1,8)=4*3, 14*2, 4*3
JTYPEG(1,9)=3, 1, 1, 3, 3, 12*2, 5*3
JTYPEG(1,10)=3, 1, 1, 5*2, 5*3, 1, 1, 7*3
JTYPEG(1,11)=4*3, 2, 8*3, 1, 8*3
JTYPEG(1,12)=3*3, 3*1, 16*3
JTYPEG(1,13)=3, 3, 6*1, 14*3
JTYPEG(1,14)=3, 1, 1, 19*3
JTYPEG(1,15)=3, 1, 1, 19*3
JTYPEG(1,16)=3, 1, 20*3
JTYPEG(1,17)=22*3
INDVEH=77982, TRIPDY= 9.3
VIFACC(1,1)= .0191, .0217, .0226, .0214, .0196, .0179, .0918, .0814, .0773, .0795, .0807, .0824,
VIFACC(1,2)= .0840, .0862, .0848, .0792, .0729, .0667, .0945, .1037, .1141, .1169, .1152, .0163,
VIFACC(1,3)= .0962, .0971, .0986, .089, .089, .0096, .0101, .0570, .0568, .0565, .0565, .0563, .0563,
VIFACC(1,4)= .0483, .0483, .0423, .0386, .0353, .0326, .0393, .0365, .0344, .0344, .0331, .0044, .0053,
VIFACC(1,5)= .0026, .0026, .0026, .0026, .0026, .0026, .0026, .0145, .0145, .0145, .0145, .0145, .0145,
VIFACC(1,6)= .0145, .0145, .0145, .0145, .0145, .0145, .0184, .0184, .0184, .0184, .0026, .0026,
VIFACC(1,7)= .0007, .0007, .0007, .0007, .0007, .0007, .0041, .0041, .0041, .0104, .0104, .0147, .0147,
VIFACC(1,8)= .0128, .0118, .0104, .0095, .0085, .0075, .0065, .0054, .0052, .0052, .0052, .0052, .0052, .0052,
VIFACC(1,9)= .0190, .0216, .0225, .0213, .0195, .0178, .0156, .0125, .0093, .0093, .0093, .0093, .0093, .0093,
VIFACC(1,10)= .1058, .1086, .1067, .0997, .0918, .0839, .0942, .1034, .1133, .1156, .1156, .1156, .1156, .1156, .1156,
VIFACC(1,11)= .0061, .0071, .0079, .0088, .0096, .0100, .0100, .0100, .0100, .0100, .0100, .0100, .0100, .0100, .0100, .0100,
VIFACC(1,12)= .0696, .0698, .0532, .0487, .0444, .0411, .0391, .0391, .0391, .0391, .0391, .0391, .0391, .0391, .0391, .0391,
VIFACC(1,13)= .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025, .0025,
VIFACC(1,14)= .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182, .0182,
VIFACC(1,15)= .0097, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007, .0007,
VIFACC(1,16)= .0161, .0149, .0131, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127, .0127,

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SEND
SDATIN

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TNOVEH= 69330C, TRIPDY= 9.5
VTFAC(1,1,1)= .0203, .0232, .0241, .0228, .0209, .0191, .0979, .0868, .0824, .0848, .0860, .0878,
      .0896, .0920, .0904, .0845, .0778, .0193, .0198, .0108, .1106, .1217, .1237, .0173, .0173,
      .0066, .0076, .0085, .0094, .0103, .0193, .0198, .0609, .0605, .0603, .0602, .0601,
      .0590, .0515, .0412, .0376, .0348, .0419, .0389, .0366, .0353, .0351, .0047, .0057,
      .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0155, .0155, .0155, .0155, .0155, .0155,
      .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155, .0155,
      .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0044, .0044, .0044, .0044, .0044, .0044,
      .0137, .0126, .0111, .0096, .0073, .0044, .0056, .0056, .0056, .0056, .0056, .0056, .0056,
      .0203, .0231, .0240, .0227, .0209, .0190, .0190, .0190, .0190, .0190, .0190, .0190, .0190,
      .1129, .1158, .1139, .1064, .0930, .0895, .0895, .0895, .0895, .0895, .0895, .0895, .0895,
      .0066, .0076, .0085, .0094, .0102, .0107, .0107, .0107, .0107, .0107, .0107, .0107, .0107,
      .0743, .0649, .0568, .0519, .0474, .0438, .0418, .0388, .0365, .0352, .0336, .0408,
      .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0195, .0195, .0195, .0195, .0195, .0195,
      .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195, .0195,
      .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
      .0172, .0159, .0139, .0114, .0088, .0055, .0055, .0055, .0055, .0055, .0055, .0055, .0055,
      SEND
$DATIN
TNOVEH= 3433, TRIPDY= 9.5
VTFAC(1,1,1)= .0202, .0230, .0239, .0226, .0208, .0189, .0049, .0043, .0041, .0042, .0043, .0044,
      .0045, .0046, .0045, .0042, .0039, .0035, .0050, .0050, .0055, .0061, .0062, .0062, .0062,
      .0065, .0075, .0084, .0094, .0102, .0107, .0030, .0030, .0030, .0030, .0030, .0030, .0030,
      .0029, .0026, .0022, .0020, .0019, .0017, .0021, .0019, .0018, .0018, .0018, .0018, .0018,
      .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027, .0027,
      .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
      .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
      .0007, .0006, .0006, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004, .0004,
      .0201, .0230, .0238, .0225, .0207, .0189, .0061, .0054, .0052, .0053, .0054, .0055,
      .0056, .0057, .0052, .0049, .0044, .0050, .0055, .0060, .0061, .0061, .0061, .0061,
      .0065, .0075, .0084, .0093, .0101, .0106, .0038, .0038, .0038, .0038, .0038, .0038,
      .0037, .0032, .0028, .0026, .0024, .0022, .0021, .0021, .0019, .0019, .0017, .0017,
      .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010, .0010,
      .0009, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
      .0009, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008,
      .0009, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008, .0008
$END
$DATIN
TNOVEH= 13454, TRIPDY= 9.5
VTFAC(1,1,1)= .3164, .3602, .3743, .3546, .3206, .2965, .3762, .6176, .6442, .0560, .0670, .0684,
      .0698, .0716, .0704, .0658, .0506, .0553, .0784, .0861, .0947, .0962, .0684, .2698,
      .1024, .1180, .1321, .1469, .1674, .0473, .0471, .0471, .0469, .0469, .0467, .0467,

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        .0459, .0401, .0351, .0321, .0293, .0271, .0326, .0303, .0285, .0275, .0727, .0883,
VTFAC(1,3,1)= .0424, .0424, .0424, .0424, .0424, .0424, .0120, .0120, .0120, .0120, .0120, .0120,
        .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,
VTFAC(1,4,1)= .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,
        .0106, .0098, .0086, .0070, .0003, .0034, .0043, .0043, .0043, .0043, .0043, .0043, .0043,
VTFAC(1,1,2)= .3153, .3589, .3730, .3533, .3245, .2956, .0960, .0851, .0808, .0834, .0843, .0861,
        .0880, .0901, .0886, .0828, .0763, .0697, .0782, .0838, .0945, .0960, .2674, .2689,
VTFAC(1,2,2)= .1021, .1175, .1316, .1464, .1591, .1668, .0596, .0593, .0591, .0591, .0588, .0588,
        .0578, .0505, .0442, .0404, .0369, .0341, .0325, .0325, .0302, .0284, .0274, .0261, .0317,
VTFAC(1,3,2)= .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0422, .0152, .0152, .0152, .0152,
        .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152, .0152,
VTFAC(1,4,2)= .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120, .0120,
        .0134, .0124, .0109, .0088, .0068, .0043, .0043, .0043, .0043, .0043, .0043, .0043, .0043,
$END
$DATIN
TNOVEH= 5723, TRIPDY= 9.5
VTFAC(1,1,1)= .0017, .0020, .0021, .0020, .0018, .0016, .0032, .0028, .0027, .0028, .0028,
        .0029, .0030, .0029, .0028, .0025, .0023, .0020, .0022, .0024, .0024, .0025, .0015,
VTFAC(1,2,1)= .0006, .0007, .0007, .0007, .0008, .0009, .0009, .0009, .0009, .0009, .0009, .0020,
        .0019, .0017, .0015, .0013, .0012, .0011, .0008, .0008, .0007, .0007, .0007, .0007, .0020,
VTFAC(1,3,1)= .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0005, .0005, .0005, .0005,
        .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0005,
        .0004, .0004, .0004, .0003, .0003, .0054, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,1,2)= .0025, .0029, .0030, .0028, .0026, .0024, .0024, .0040, .0040, .0040, .0040, .0002,
        .0037, .0038, .0037, .0035, .0032, .0029, .0024, .0027, .0027, .0029, .0030, .0021,
VTFAC(1,2,2)= .0008, .0009, .0010, .0012, .0013, .0013, .0025, .0025, .0025, .0025, .0025, .0025,
        .0024, .0021, .0019, .0017, .0015, .0014, .0010, .0009, .0009, .0009, .0009, .0009, .0010,
VTFAC(1,3,2)= .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0003, .0006, .0006, .0006, .0006,
        .0006, .0006, .0006, .0006, .0006, .0006, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,2)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0002, .0002, .0002, .0002,
        .0006, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
$END
$DATIN
TNOVEH= 14372, TRIPDY= 9.5
VTFAC(1,1,1)= .0017, .0020, .0021, .0020, .0021, .0020, .0021, .0020, .0021, .0021, .0021, .0021,
        .0029, .0030, .0029, .0029, .0027, .0027, .0025, .0025, .0025, .0025, .0025, .0025,
VTFAC(1,2,1)= .0006, .0007, .0007, .0007, .0008, .0008, .0009, .0009, .0009, .0009, .0009, .0009,
        .0019, .0017, .0015, .0013, .0012, .0011, .0008, .0008, .0007, .0007, .0007, .0007, .0019,
VTFAC(1,3,1)= .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002, .0002,
        .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
VTFAC(1,4,1)= .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005, .0005,
        .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,

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VTFAC(1,3,2)= .0003, .0003, .0003, .0003, .0003, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,4,1)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0003,
VTFAC(1,4,2)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,4,3)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
VTFAC(1,4,4)= .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001, .0001,
SEND SDATIN TNGVEH* TRIPDY* 9.5
VTFAC(1,1,1)= .0395, .0449, .0467, .0442, .0436, .0370, .0095, .0094, .0084, .0085,
VTFAC(1,2,1)= .0087, .0089, .0088, .0082, .0076, .0069, .0098, .0107, .0113, .0120, .0335, .0337,
VTFAC(1,3,1)= .0128, .0147, .0165, .0183, .0199, .0209, .0059, .0059, .0059, .0059, .0058, .0358,
VTFAC(1,3,2)= .0057, .0059, .0044, .0040, .0037, .0034, .0041, .0038, .0036, .0034, .0091, .0116,
VTFAC(1,4,1)= .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015,
VTFAC(1,4,2)= .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015,
VTFAC(1,4,3)= .0013, .0012, .0011, .0009, .0009, .0007, .0004, .0005, .0005, .0005, .0015, .0015,
VTFAC(1,4,4)= .0393, .0448, .0465, .0441, .0405, .0369, .0120, .0106, .0102, .0105, .0107,
VTFAC(1,2,2)= .0119, .0112, .0111, .0103, .0095, .0087, .0098, .0107, .0119, .0120, .0334, .0335,
VTFAC(1,3,2)= .0072, .0063, .0055, .0050, .0046, .0043, .0041, .0038, .0036, .0034, .0033, .0040,
VTFAC(1,3,3)= .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019, .0019,
VTFAC(1,4,2)= .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015, .0015,
VTFAC(1,4,3)= .0017, .0015, .0014, .0011, .0009, .0009, .0005, .0005, .0005, .0005, .0005, .0015,

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APPENDIX B

PROGRAM LISTING

LISTING OF VEHICLE AGGREGATION MODULE

C PROGRAM VAM

C THIS PROGRAM DISAGgregates THE LARTS VMT BY SPEED, COUNTY
 C GRID SQUARE FOR ALL COMBINATIONS OF PEAK, OFF-PEAK AND FWY,
 C NON-FWY CONDITIONS.

C TAPE1 = NAMELIST INPUT (DATIN)

C TAPE2 = TO TAPE4 OF ECMPLT

C TAPE3 = LARTS TRAFFIC DATA

C TAPE4 = TO TAPE4 OF ECM

C TAPE6 = PRINTOUT TO SYSTEM PRINTER

COMMON ITYPE(22,17),IFWY,I VOL,X1,Y1,X2,Y2,SPDPK,SPDOPK,DIS,

1 IC1,IC2,PC1,PC2,IPK,XMIN,XMAX,YMIN,YMAX,DXY,NX,NY,

2 VMTC(1C,5,5),VMTNP(10,5,5),VMTFD(10,15,5),VMTFP(10,15,5),

3 VMTC(1C,4,374),JTYPEG(22,17)

DIMENSION SUM(5),VMTG(14960),VVMT(2000)

EQUIVALENCE (VMTC,VVMTG),(VMTNQ,VVMT)

NAMELIST/DATIN/NLINK,XMIN,XMAX,YMIN,YMAX,DXY,ITYPEG,JTYPEG

DO 4 I=1,2000

VVMT(I)=0.

5 VVMTG(I)=0.

READ(11,DATIN)

ILINK=0

100 READ(3,112,END=140)IAND1,TBN7D1,IFWY,IVNL,X1,Y1,X2,Y2,SPDPK,

1 SPDPK,TP,TP,DIS,IC1,PC1,IC2,PC2

112 FORMAL(215,12X,12,1,16X,4F8.3,5F5.0,I3,F6.3,I3,F6.3)

120 IF((X1.LT.XMIN.AND.X2.LT.XMIN)GO TO 100

IF((X2.GT.XMAX.AND.X1.GT.XMAX)GO TO 100

IF(Y1.LT.YMIN.AND.Y2.LT.YMIN)GO TO 100

IF(Y2.GT.YMAX.AND.Y1.GT.YMAX)GO TO 100

ILINK=ILINK+1

IF(ILINK.GT.NLINK)GO TO 140

IF(SPDPK.LE.SPDOPK)GO TO 130

XYZ=SPDPK

SPDPK=SPDPK

SPDPK=XYZ

SPDPK=SPDPK

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192 FORMAT(1H1,40X,23HVMT BREAKDOWN IN COUNTY ,13//11)
PRINT 162
FORMAT(
162
155H ----- NON-FWY OFF-PEAK ----- ,
251H ----- FWY PEAK ----- /
355H GRID GRID GRID GRID GRID GRID GRID ,
449H GRID GRID GRID GRID GRID GRID GRID /
255H SPEED TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 ,
350H TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 ,
DQ 180 ISPD=1,10
SPD=(ISPD-1)*5.+15.
WRITE(6,172) SPD,(VMTND(ISPD,K,IC),K=1,5),
FORMAT(5.0,10E10.2)
172
CONTINUE
186
WRITE(6,192)
FORMAT(///)
192
WRITE(6,202)
202
FORMAT(
155H ----- FWY OFF-PEAK ----- ,
251H ----- FWY PEAK ----- /
355H GRID GRID GRID GRID GRID GRID GRID ,
449H GRID GRID GRID GRID GRID GRID GRID /
255H SPEED TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 ,
350H TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5 ,
DQ 210 ISPD=1,10
SPD=(ISPD-1)*5.+15.
WRITE(6,172) SPD,(VMTND(ISPD,K,IC),K=1,15),
* K=1,15)
* FURRAT(5.0,10E10.2/(5X,10E10.2))
216
CONTINUE
220
CONTINUE
C
C WRITE GRID SQUARE VMT FILE
WRITE(2) ((VMTG(ISPD,IVMT,IG),ISPR=1,10),IVMT=1,4),IG=1,374
C
C WRITE COUNTY AND TOTAL VMT FILE
C
C WRITE(4) ((VMTND(ISPD,K,IC),ISPN=1,10),K=1,5),IC=1,5)
C WRITE(4) ((VMTNP(ISPD,K,IC),ISPN=1,10),K=1,5),IC=1,5)
C WRITE(4) ((VMTFO(ISPD,K,IC),ISPN=1,10),K=1,15),IC=1,5)
C WRITE(4) ((VMTFP(ISPD,K,IC),ISPD=1,10),K=1,15),IC=1,5)
C STOP

```

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END
SUBROUTINE LINK03
COMMON ITYPE(22,17),IFWY,IVYL,X1,Y1,X2,Y2,SPDOPK,SPDOPK,DIS,
1 IC1,IC2,PC1,PC2,IPAD,IPK,XMIN,XMAX,YMIN,YMAX,NX,NY,
2 VMTND(10,5,5),VMTNP(10,5,5),VMTFD(10,15,5),VMTFP(10,15,5),
3 VMTG(10,4,374),JTYPEG(22,17)
DLINK=SQR((X2-X1)*2+(Y2-Y1)**2)
IF(DLINK.LT.0.001)DLINK=0.001
FAC=0.01*DIS/DLINK
NX=(XMAX-XMIN)/DXY
NY=(YMAX-YMIN)/DXY
DCUM=0.
NSEG=0
ISPK=SPDOPK/4.9999-2
ISOPK=SPDOPK/4.9999-2
IF(ISPK.GT.10)ISPK=10
IF(ISPK.LT.1)ISPK=1
IF(ISOPK.GT.10)ISOPK=10
IF(ISOPK.LT.1)ISOPK=1
IC1=IC1-1
IC2=IC2-1
IF(IC1.GT.1)GO TO 100
IC1=1
PC1=0.
IF(IC2.GT.1)GO TO 110
IC2=1
PC2=0.
PCT=PC1+PC2
IF(X2.GT.X1)GO TO 120
XTMP=X1
X1=X2
X2=XTMP
YTMP=Y1
Y1=Y2
Y2=YTMP
NSEG=NSEG+1
IF(X1.LT.XMIN)X1=XMIN
IF(X1.GT.XMAX)X1=XMAX
IF(X2.LT.XMIN)X2=XMIN
IF(X2.GT.XMAX)X2=XMAX
IF(Y1.LT.YMIN)Y1=YMIN
IF(Y1.GT.YMAX)Y1=YMAX

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IF(Y2.LT.YMIN)Y2=YMIN
IF(Y2.GT.YMAX)Y2=YMAX
I=(XL-XMIN)/(DXY-1.E-6)+1
J=(YL-YMIN)/(DXY-1.E-6)+1
K=ITYPEG(I,J)
KJ=3*(K-1)+JTYPEG(I,J)

122 IF(I.GT.NX) PRINT 122,I,XJ
      FORMAT(23H I GREATER THAN NX, I=,T7,4H X= ,E15.9)
      IF(J.GT.NY) PRINT 124,J,YI
      FORMAT(23H J GREATER THAN NY, Y= ,T7,4H Y= ,E15.9)

124 XGR=XMIN+I*DXY
      YGU=YMIN+J*DXY
      YGD=YGU-DXY
      IF(X2.GT.XGR) GO TO 13C
      IF(Y2.GE.YCD.AND.Y2.LT.YGU) GO TO 210
      IF(X2-X1.LT.0.0001) GO TO 240
      DX=XGR-X1
      IF(DCUM.GT.0.)GO TO 150
      A=(Y2-Y1)/(X2-X1)
      B=Y1-A*X1
      DY=A*XGR+B-Y1
      IF(A.GT.0.)GO TO 160
      IF(YGD-Y1.LT.DY) GO TO 180
      DY=YGD-Y1-C.QC1
      GJ TO 170
      IF(YGU-Y1.GT.DY) GO TO 180
      DY=YGL-Y1
      DX=(Y1+DY-B)/A-X1
      D=SCR1(DX**2+DY**2)
      IF(D+DCUM.GT.DLINK) GO TO 210
      VMT=D*FAC*TVAL
      IF(IFWY.EQ.1) GO TO 19C
      VMTN0(ISPK,K,IC1)=VMTND(ISPK,K,IC1)+VMT*PC1
      VMTN0(ISPK,K,IC2)=VMTND(ISPK,K,IC2)+VMT*PC2
      VMTN0(ISPK,K,IC1)=VMTNP(ISPK,K,IC1)+VMT*PC1
      VMTNP(ISPK,K,IC2)=VMTNP(ISPK,K,IC2)+VMT*PC2
      VMTNP(ISPK,K,1)=VMTNP(ISPK,K,1)+VMT*PC1
      VMTG(ISDPK,1,IG)=VMTG(ISDPK,1,IG)+VMT*PC1
      VMTG(ISPK,2,IG)=VMTG(ISPK,2,IG)+VMT*PC1
      GJ TO 200

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190      VMTFO((ISOPK,KJ,IC1)=VMTFO((ISOPK,KJ,JC1)+VMT*PC1
          VMTFO((ISOPK,KJ,IC2)=VMTFO((ISOPK,KJ,JC2)+VMT*PC2
          VMTFO((ISOPK,KJ,1)=VMTFO((ISOPK,KJ,1)+VMT*PC1
          VMTFP((ISOPKJ,KJ,IC1)=VMTFP((ISOPKJ,KJ,JC1)+VMT*PC1
          VMTFP((ISOPKJ,KJ,IC2)=VMTFP((ISOPKJ,KJ,JC2)+VMT*PC2
          VMTFP((ISOPKJ,KJ,1)=VMTFP((ISOPKJ,KJ,1)+VMT*PC1
          VMTG((ISOPK,3,IG)=VMTG((ISOPK,3,IG)+VMT*PC1
          VMTG((ISOPK,4,IG)=VMTG((ISOPK,4,IG)+VMT*PC1
          DCUM=DCUM+D
          X1=X1+DX
          Y1=Y1+DY
          GO TO 120
          D=DLINK-DCUM
          VMT=D*FAC*IVOL
          IF(1FWY.EQ.1) GO TO 220
          VMTN((ISOPK,K,IC1)=VMTN((ISOPK,K,JC1)+VMT*PC1
          VMTN((ISOPK,K,IC2)=VMTN((ISOPK,K,JC2)+VMT*PC2
          VMIND((ISOPK,K,1)=VMIND((ISOPK,K,1)+VMT*PC1
          VMTNP((ISPK,K,IC1)=VMTNP((ISPK,K,JC1)+VMT*PC1
          VMTNP((ISPK,K,IC2)=VMTNP((ISPK,K,JC2)+VMT*PC2
          VMTNP((ISPK,K,1)=VMTNP((ISPK,K,1)+VMT*PC1
          VMTG((ISOPK,1,IG)=VMTG((ISOPK,1,IG)+VMT*PC1
          VMTG((ISOPK,2,IG)=VMTG((ISPK,2,IG)+VMT*PC1
          GO TO 230
          VMTFO((ISOPK,KJ,IC1)=VMTFO((ISOPK,KJ,JC1)+VMT*PC1
          VMTFO((ISOPK,KJ,IC2)=VMTFO((ISOPK,KJ,JC2)+VMT*PC2
          VMTFO((ISOPK,KJ,1)=VMTFO((ISOPK,KJ,1)+VMT*PC1
          VMTFP((ISOPK,KJ,IC1)=VMTFP((ISPK,KJ,JC1)+VMT*PC1
          VMTFP((ISOPK,KJ,IC2)=VMTFP((ISPK,KJ,JC2)+VMT*PC2
          VMTFP((ISOPK,KJ,1)=VMTFP((ISPK,KJ,1)+VMT*PC1
          RETURN
200      230      DY=YGL-YI
          IF(Y2.LT.Y1)DY=YGD-DY
          D=ABS(DY)
          IF(D+DCUM.GT.DLINK)GO TO 210
          VMT=D*FAC*IVOL
          IF(1FWY.EQ.1) GO TO 250
          VMTN((ISOPK,K,IC1)=VMTN((ISOPK,K,JC1)+VMT*PC1
          VMTN((ISOPK,K,IC2)=VMTN((ISOPK,K,JC2)+VMT*PC2
          VMIND((ISOPK,K,1)=VMIND((ISOPK,K,1)+VMT*PC1
          VMTNP((ISPK,K,IC1)=VMTNP((ISPK,K,JC1)+VMT*PC1
          VMTNP((ISPK,K,IC2)=VMTNP((ISPK,K,JC2)+VMT*PC2
210      240      250

```

```

VMTNP((ISPK,K,1)=VMTNP((ISPK,K,1)+VMT*PCT
VMTG((ISOPK,1,IG)=VMTG((ISOPK,1,IG)+VMT*PCT
VMTG((ISPK,2,IC)=VMTG((ISPK,2,IG)+VMT*PCT
GO TO 26C
250 VMTFO((ISOPK,KJ,IC1)=VMTFO((ISOPK,KJ,TC1)+VMT*PC1
      VMTFO((ISOPK,KJ,IC2)=VMTFO((ISOPK,KJ,TC2)+VMT*PC2
      VMTFO((ISOPK,KJ,1)=VMTFO((ISOPK,KJ,1)+VMT*PCT
      VMTFP((ISPK,KJ,IC1)=VMTFP((ISPK,KJ,TC1)+VMT*PC1
      VMTFP((ISPK,KJ,IC2)=VMTFP((ISPK,KJ,TC2)+VMT*PC2
      VMTFP((ISPK,KJ,1)=VMTFP((ISPK,KJ,1)+VMT*PCT
DCUM=DCUM+D
Y1=Y1+DY
GO TO 12C
END
26C

```

LISTING OF EMISSION FACTOR MODULE

C PROGRAM EFM

```
C COMMON EXHCF(10,24,4),EXHCN(10,24,4),EXCOF(10,24,4),
1 EXCON(10,24,4),EXNDXF(10,24,4),EXNDX(10,24,4),EXSDX,PART,
2 EVHCF,CRHC,TEMPER(24,4),ANNMIL(20),POPDIS(20,4),IREGN,
3 IYEAR,IFMIS,AVSPD,TEMP,COLDOP,HOTSDP,HOTCOP,NYRS,
4 KVEW,NEW(4),ISPDA,ISESN,CIPN(20,8),XMIN(20),ICAT,
NAMELIST/NAMELA/KVEH,IYEAR,IREGN,ANNMIL,PJDPS,NYRS,ICAT,
1 COLDOP,HOTSDP,HOTCOP,TEMPER,NSESN,NPERD,NSPD,SPDMN
NAMELIST/EMFTR/CIPN
```

C EMISSION SPECIES FOR EMIS:

C	1	EXHAUST HYDROCARBONS
C	2	CARBON MONOXIDE
C	3	NITROGEN OXIDES
C	4	SULFUR DIOXIDE
C	5	PARTICULATES
C	6	DIURNAL EVAPORATIVE HYDROCARBONS
C	7	HOTSDAK EVAPORATIVE HYDROCARBONS
C	8	CRANKCASE HYDROCARBONS

```
C TAPE1 - NAMELIST INPUT (NAMELA)
C TAPE4 - EMISSION FACTORS IN NAMELIST FORMAT (EMFTR)
C TAPE5 - OUTPUT OF EMISSION RESULTS - TO TAPES OF EACH
```

```
C ALL EMISSION FACTORS ARE IN UNITS OF GM/MI,
C EXCEPT EVAPORATIVE HYDROCARBONS WHICH ARE
C GM/DAY FOR DIURNAL
C GM/TRIP FOR HOTSDAK
```

```
C DATA NEMIS/8/
100 READ(1,NAMELA,END=990)
101 READ(4,EMFTR)
C DO 210 ITEM=1,NEMIS
C     DO 210 K=1,NSFSN
C         ISESN=K
C             Y=0.
C
```

C CALCULATE XMIN

```
C
DO 110 I=1,NYRS
XMIN(I)=ANNMIL(I)*POPDIS(I,ISESN)
110 Y=Y+XMIN(I)
DO 120 I=1,NYRS
120 XMIN(I)=XMIN(I)/Y
DO 210 J=1,NPERD
TEMP=TEMPER(J,K)
DO 210 I=1,NSOD
NEW(I)=0
IF(I.EQ.1)NEW(I)=1
NEW(2)=0
ISUM=I+J+K
IF((ISUM.EQ.3)NEW(2)=1
IF((NEW(2).EQ.0.AND.IEMIS.GT.3)NEW(I)=1
NEW(3)=0
IF(J.EQ.1.AND.K.EQ.0)IEMIS=67+3*IEMIS
ISUM=I+J+K+IFMIS
NEW(4)=0
IF((ISUM.EQ.4)NEW(4)=1
AVSPD=DSPD*(I-1)+SPDMN
130 ISPD=I
CALL VEMSPS(EFACN,EFACF)
GOTO( 130,140,150,160,170,180,190,200),IEMIS
EXHCF(I,J,K)=EFACF
EXHCN(I,J,K)=EFACN
GO TO 210
140 EXCOF(I,J,K)=EFACF
EXCON(I,J,K)=EFACN
GO TO 210
150 EXNOXF(I,J,K)=EFACF
EXNOXN(I,J,K)=EFACN
GO TO 210
160 EXSOX=EFACN
GO TO 210
170 PART=EFACN
GO TO 210
180 EDURN=EFACN
GO TO 210
190 EHTSK=EFACN
GO TO 210
```

200 CRHC=EFACN

210 CONTINUE

```
    WRITE(5)EXSOX,PART,EDURN,EHTSK,CRHC  
    WRITE(5)EXHCF(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
    WRITE(5)(EXHCF(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
    WRITE(5)(EXCDF(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
    WRITE(5)(EXCON(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
    WRITE(5)(EXNOXF(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
    WRITE(5)(EXNOXN(I,J,K),I=1,NSPD),J=1,NPERD),K=1,NSESN)  
DO 260 K=1,NSESN
```

C PRINT 222,1YEAR,KVEH,K

```
222 FORMAT(1H1,46X,16HEMISSION FACTORS /  
1 47X,12HFOR THE SCAB ,15//  
2 47X,12HVEHICLE TYPE ,12//  
3 47X,6HSEASON ,12//)  
C PRINT 232,EXSOX,PART,EDURN,EHTSK,CRHC  
232 FORMAT(34X,26H SULFUR DIOXIDE ,F10.3,6H GM/HI /  
1 34X,26H PARTICULATES ,F10.3,6H GM/HI /  
3 34X,26H EVAPORATIVE HYDROCARBONS /  
2 34X,26H DIURNAL ,F10.3,7H GM/DAY /  
2 34X,26H HOT SOAK ,F10.3,8H GM/TRIP /  
3 34X,26H CRANKCASE HYDROCARBONS ,F10.3,6H GM/MI //16X,  
4 6624 HOUR SPEED FWY HC N-FWY HC N-FWY CO NOX FWY CO FWY NOX ,  
5 1GH N-FWY NOX )  
DO 250 J=1,NPERD  
DO 250 I=1,NSPD  
SPD=DSPD*(I-1)+SPDMN  
C PRINT 242,J,SPD,EXHCF(I,J,K),EXHCN(I,J,K),EXCDF(I,J,K),  
C 1 EXCON(I,J,K),EXNOXF(I,J,K),EXNOXN(I,J,K)  
242 FORMAT(16X,15,F5.0,6F10.3)  
250 CONTINUE  
260 CONTINUE  
270 CONTINUE  
60 TO 100
```

990 STOP
END
SUBROUTINE VEMSPS(ETOTS,ETOTF)

C VEHICLE EMISSIONS MODULE - METHOD OF SUP. NO. 5

2-6-76

COMMON EXHCF(10,24,4), EXHCN(10,24,4), EXCDF(10,24,4),
 1 EXCON(10,24,4), EXNOXF(10,24,4), EXNOXN(10,24,4), EXSUX, PART,
 2 EVHC, CRHC, TEMPER(24,4), ANNML(20), POPDIS(20,4), IREGN,
 3 IYEAR, IEMIS, AVSPD, TEMP, COLDOP, HOTDOP, NYRS,
 4 KVEH, NEW(4), ISPD, ISESN, CTPN(20,8), XMIN(20), ICAT
 DIMENSION NAMES(12), VIPS(2,10,20), RIPTW(20), ZIPT(20)
 DATA NAMES/40H LIGHT DUTY VEHICLES LIGHT DUTY TRUCKS,
 + 50HEAVY DUTY VEHICLES HEAVY DUTY DIESELS LIGHT DUTY,
 + 30HY DIESELS MOTORCYCLES /

C REQUIRED PARAMETERS:

C IREGN - 1=LOW, 2=HIGH, 3=CALIF
 C IYEAR - YEAR MODELED, I.E. 1976
 C IEMIS - EMISSION SPECIES
 C 1=EXHAUST HC
 C 2=CD
 C 3=NDX
 C 4=SOX
 C 5=PARTICULATE
 C 6=DIURNAL EVAPORATIVE HC
 C 7=HOTSOAK EVAPORATIVE HC
 C 8=CRANKCASE HC

C ANNML - VMT DISTRIBUTION (1)
 C I=1, NYRS VEHICLE AGE I=1
 C J=1, 6 VEHICLE CLASS (EPA DEFINITION)
 C 1=LDV
 C 2=LDT
 C 3=HDV GAS
 C 4=HDV DIESEL
 C 5=LDV DIESEL
 C 6=MOTORCYCLE

C POPDIS - POPULATION DISTRIBUTION (1, J, K)
 C I SAME AS FOR ANNML, K IS SEASON INDEX
 C AVSPD - AVERAGE SPEED (6) BY VEHICLE CLASS
 C TEMP - AVERAGE TEMPERATURE DEGREES F
 C COLDOP - PERCENT COLD OPERATION BY VEHICLE CLASS (6)
 C HOTDOP - PERCENT HOT START OPERATION BY VEHICLE CLASS (8)

C HOTCOP - PERCENT HOT CRUISE OPERATION BY VEHICLE CLASS (6)

C TAPE4 - EMISSION FACTORS

```
C DISPLAY(6) *IEMIS,IYEAR,AISPD,TEMP,IREGN,COLDOP,HOTCOP*
C DISPLAY(6) IEMIS,IYEAR,AISPD,TEMP,IREGN,COLDOP,HOTCOP
C DISPLAY(6) *
C PRINT 162
C ETOTS=0.
C ETOTF=0.
C VEHICLE TYPE KVEH
C DO 140 I=1,NYRS
C IYEAR+2 = I
C DISPLAY(6) * MODEL YEAR *,IY
C CALL THFAC,EFACT,SFACT,EVAP TO RETURN THE COEFFS.
C RIPTW,ZIPT,CIPN,VIPS
C IF(NEW(1).EQ.1)CALL THFAC(RIPTW(I),ZIPT(I),IY)
C THE MEAN EMISSION FACTORS ARE NOW INCLUDED IN THE NAMELIST
C INPUT MAKING SUBROUTINE EFAC OBSOLETE.
C IF(NEW(2).EQ.1)CALL EFAC(CIPN(I,IEMIS),IY,IFIRST,I)
C IF(NEW(3).EQ.1)CALL SFAC(VIPS(1,IEMIS),VIPS(2,IEMIS),IY)
C MULTPLY AND SUM FACTORS
C GO TO( 100,102,130,110,110,120,110,110),IEMIS
100 ETOTS=ETOTS+CIPN(I,IEMIS)*XMIN(I)*VIPS(I,IEMIS),IY
C ETOTF=ETOTF+CIPN(I,IEMIS)*XMIN(I)*VIPS(2,IEMIS),IY
C RIPTW(I)
```

```

GO TO 130
110 ETOTS=ETOTS+CIPN(I,IEMIS)*XMIN(I)
      GO TO 120
120 ETOTS=ETOTS+CIPN(I,IEMIS)*POPODIS(I,ISESN)
      CONTINUE
C
C     OUTPUT RESULTS
C
C     PRINT 172,IY,CIPN(I,IEMIS),XMIN(I),VIPS(I,ISP0,I),VIPS(2,ISP0,I),
C     1 ZIPT(I),RIPW(I)
140 CONTINUE
      PRINT 182,ETOTS,ETOTS
150 CONTINUE
      RETURN
162 FORMAT(1H1//46X,17HEMISSIONS SUMMARY //,
     +63H YEAR EMISSION WEIGHTED N-FWY SPEED FWY SPEED TEMP HOT/, 
     +34HCOLD FWAP CRANK N-FWY FWY /,
     +63H FACTOR TRAVEL FACTOR FACTOR FACTOR FAC,
     +36HTOR FACTOR FACTOR FACTOR FACTOR )
172 FORMAT(15,F9.2,F10.3,2F12.3,3F9.3,3F9.2)
182 FORMAT(//27H NDN-FWY EXHAUST FACTOR , F7.2,6H GM/MI ,
     + 27H FWY EXHAUST FACTOR , F7.2,6H GM/MI )
      END
      SUBROUTINE THFAC(RIPTW,ZIPT,IY)
C
C     THFAC RETURNS THE TEMPERATURE AND HOT/COLD FACTOR
C
C     COMMON EXHCF(10,24,4),EXHCN(10,24,4),EXCOF(10,24,4),
1     EXCON(10,24,4),EXNOXF(10,24,4),EXNOXN(10,24,4),EXSOX,PART,
2     EVHC,CRHC,TEMPER(24,4),ANVMIL(20),POPDIS(20,4),IREGN,
3     IYEAR,IEMIS,AVSPD,TEMP,COLDOP,HOTDP,NYRS,
4     KVEH,NEW(4),TSD,ISESN,CIN(20,8),XMIN(20),ICAT
      DIMENSION CONST1(6,2),CONST2(6,2),CNINST(3,2)
      DATA CONST1/-0.0113,-0.0304,-0.0127,-0.0743,-0.0046,-0.0060,
1     -1.8100,-3.2500,-1.9500,-6.5800, 1.3600, 1.5200/
      DATA CONST2/ 0.0079, 0.0050, 0.0045, 0.0360, -0.0068, 0.0010,
1     0.0300,-0.0409, 0.0200, -4.1400, 1.6400, 0.3350/
      DATA CONST3/ 0.0018, 0.0350,-0.0010,
1     0.0095,-5.2400, 0.8680/
C
C     CONST1, CONST2, CONST3 CONTAIN THE TEMPERATURE,
C     HOT/COLD (FT), HOT/COLD (GT) FACTORS, RESPECTIVELY

```

```

C T(TEMP,A,B)=A*TEMP + B
C Q(W,X,FT,GT)=(W + X*FT + (100. - W - X)*GT) /
+ (20. + 27.*FT + 53.*GT)
C RIPTW=ZIPT*1.0
C IF(TEMP.LT.20.) TEMP=20.
C IF(TEMP.GT.80.) TEMP=80.

C RETURN IF NOT LDV OR LDT, OR NOT HC, CO, NOX
C IF(KVEH.GT.2.0.R.IEMIS.GT.3)RETURN
C K=2*(IEMIS-1)+1

C CALCULATE NON-CATALYST TEMPERATURE FACTOR
C
C ZIPT=T(TEMP,CONST1(K,1),CONST1(K,2))
C DISPLAY(6)*7*ZIPT,CONST1(K,1),CONST1(K,2)*
C DISPLAY(6) ZIPT,CONST1(K,1),CONST1(K,2)
C IF(ICAT.EQ.0)GO TO 100

C CALCULATE CATALYST TEMPERATURE FACTOR AND DEFINE
C ZIPT FOR EITHER LDV OR LDT
C
C Z=T(TEMP,CONST1(K+1,1),CONST1(K+1,2))
C IF(KVEH.EQ.1)ZIPT=Z
C IF(KVEH.EQ.2)ZIPT=ZIPT*.25 + Z*.75

C CALCULATE HOT/COLD FACTOR IN SAME MANNER AS ABOVE
C
C 100  FT=T(TEMP,CONST2(K,1),CONST2(K,2))
C     RIPTW=Q(COLDOP,O.,FT,FT)
C     DISPLAY(6)*RIPTW*,RIPTW*,FT*,FT
C     IF(IY.LT.1975.OR.IY.GT.1977)RETURN
C     FT=T(TEMP,CONST2(K+1,1),CONST2(K+1,2))
C     GT=T(TEMP,CONST3(TEMPTS,1),CONST3(IEMIS,2))
C     IF(IEMIS.NE.2)GO TO 110
C     FT=EXP(FT)
C     GT=EXP(GT)
C     R=Q(COLDOP,HOTSOP,FT,GT)
C     IF(KVEH.EQ.1)RIPTW=R
C     DISPLAY(6)*RIPTW,FT,C2(KP,I),C2(KP,2),GT,C3(IE,1),C3(IE,2),GT,
C     DISPLAY(6) RIPTW,FT,CONST2(K+1,1),CONST2(K+1,2),GT,

```

```

C 1. CONST3(IEMIS,1),CONST3(IEMIS,2)
C IF(KVEH.EQ.2) RIPTW=RIPTW*.25 + R*.75
C RETURN
C END

```

SUBROUTINE SFAC(VIPS,VIPF,IV)

```

C SFAC RETURNS THE SPEED FACTORS S - N-FWY, F - FWY

```

```

C THE SPEED CORRECTION COEFFICIENTS, AF, BF, CF, AS, BS,
C AND CS, WERE DERIVED FROM THE OLSON DATA AND THEN
C NORMALIZED TO 1.0 AT A SPEED OF 19.6 MPH.

```

```

C COMMON EXHCFC(10,24,4),EXHCM(10,24,4),EXCUF(10,24,4),
C 1 EXCON(10,24,4),EXNDXF(10,24,4),EXNDX(10,24,4),EXSOX,PART,
C 2 EVHC,CRHC,TEMPER(24,4),ANMIL(20),PJD01S(20,4),IREGN,
C 3 IYEAR,IEMIS,AVSPD,TEMP,COLDOP,HOTDOP,NYRS,
C 4 KVEH,NEW(4),ISPD,ISESN,CION(20,8),XMIN(20),ICAT
C DIMENSION AF(6,2,3),BF(6,2,3),CF(6,2,3),SL0(6,2,3),SHI(6,2,3),
C + HA(2,2,3),HB(2,2,3),HC(2,2,3),HS(2,2,3),HS1(2,2,3),
C + DT(3,3),SI(6,2,3),AS(6,2,3),SS(6,2,3),CS(6,2,3)
C DATA AF/
C * 8.568E-01, 9.690E-01, 9.460E-01, 7.647E-01, 7.933E-01, 8.057E-01,
C * 8.830E-01, 7.220E-01, 7.060E-01, 8.409E-01, 7.870E-01, 2.0
C * 8.596E-01, 9.488E-01, 1.249E+00, 1.229E+00, 1.147E+00, 9.066E-01,
C * 7.210E-01, 6.620E-01, 6.280E-01, 8.350E-01, 8.940E-01, 9.0
C * 7.276E-01, 7.745E-01, 7.746E-01, 6.952E-01, 6.786E-01, 7.334E-01,
C * 6.020E-01, 6.420F-01, 7.260E-01, 6.140E-01, 6.970E-01, 0.0
C DATA BF/
C *-5.330E-02,-5.930E-02,-5.830E-02,-4.760E-02,-4.910E-02,-4.940E-02,
C *-5.580E-02,-4.630E-02,-4.550E-02,-5.330E-02,-4.990E-02,0.0
C *-5.340E-02,-5.850E-02,-7.610E-02,-7.460E-02,-6.930E-02,-5.690E-02,
C *-4.570E-02,-4.230E-02,-4.040E-02,-5.240E-02,-5.540E-02,0.0
C * 1.390E-02, 1.150E-02, 1.150E-02, 1.540E-02, 1.640E-02, 1.360E-02,
C * 2.027E-02, 1.835E-02, 1.433E-02, 1.973E-02, 1.533E-02, 0.0
C DATA CF/
C * 4.890E-04, 5.030E-04, 5.120E-04, 4.390E-04, 4.400E-04, 4.230E-04,
C * 5.520E-04, 4.800E-04, 4.840E-04, 5.330E-04, 4.990E-04, 0.0
C * 4.870E-04, 5.150E-04, 6.320E-04, 6.360E-04, 5.510E-04, 5.430E-04,
C * 4.560E-04, 4.330E-04, 4.260E-04, 4.980E-04, 4.990E-04, 0.0
C * 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
C * 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
C DATA AS/

```

```

* 1.203E+00, 1.222E+01, 1.195E+00, 1.116E+00, 1.122E+00, 1.034E+00,
* 8.830E-01, 7.220E-01, 7.060E-01, 8.400E-01, 7.870E-01, 9.0
* 1.182E+00, 1.273E+00, 1.644E+00, 1.640E+00, 1.488E+00, 1.342E+00,
* 7.210E-01, 6.620F-01, 6.280E-01, 8.350E-01, 8.940E-01, 0.
* 9.124E-01, 9.733E-01, 9.935E-01, 9.149E-01, 9.116E-01, 9.271E-01,
* 6.020E-01, 6.420E-01, 7.260E-01, 6.140E-01, 6.970E-01, 0.
/ DATA BS/
* -8.010E-02,-7.890E-02,-7.790E-02,-7.463E-02,-7.430E-02,-6.720E-02,
* -5.580E-02,-4.630E-02,-4.550E-02,-5.330E-02,-4.990E-02, 0.
* -7.850E-02,-8.420E-02,-1.080E-01,-1.079E-01,-9.610E-02,-9.140E-02,
* -4.570E-02,-4.230E-02,-4.040E-02,-5.240E-02,-5.540E-02, 0.
* 4.470E-03, 1.360E-03, 2.490E-05, 4.390E-03, 4.510E-03, 3.720E-03,
* 2.027E-02, 1.835E-02, 1.493E-02, 1.978E-02, 1.533E-02, 0.
/ DATA CS/
* 9.560E-04, 8.440E-04, 8.640E-04, 9.010E-04, 8.690E-04, 7.370E-04,
* 5.520E-04, 4.800E-04, 4.840E-04, 5.330E-04, 4.990E-04, 0.
* 9.280E-04, 9.820E-04, 1.230E-03, 1.190E-03, 1.030E-03, 1.170E-03,
* 4.550E-04, 4.330E-04, 4.260E-04, 4.980E-04, 4.990E-04, 0.
* 0., 0., 0., 0., 0., 0.
/ DATA S5/2.500, 2.960, 2.950, 2.510, 2.750, 1.870,
1.2.340, 2.100, 2.040, 2.350, 2.170, 0.000,
2.2.720, 3.060, 3.570, 3.630, 4.150, 1.790,
3.2.290, 2.430, 2.470, 2.840, 3.000, 0.000,
4.1.080, 1.040, 1.080, 1.130, 1.150, 1.160,
5.1.330, 1.220, 1.220, 1.190, 1.060, 0.000/
DATA S10/1.450, 1.660, 1.650, 1.510, 1.630, 1.120,
1.1.370, 1.270, 1.220, 1.360, 1.350, 0.060,
2.1.570, 1.750, 1.850, 1.880, 2.230, 1.000,
3.1.480, 1.540, 1.610, 1.720, 1.830, 0.000,
4.1.030, 1.000, 1.050, 1.050, 1.030, 1.090,
5.1.200, 1.180, 1.080, 1.110, 1.020, 0.000/
DATA H1/0.953, 1.070, 0.883, 0.722,
1.0.967, 1.047, 0.721, 0.652,
2.0.808, 0.888, 0.602, 0.642/
DATA HB/-0.0500, -0.0663, -0.0558, -0.0463,
1.-0.0607, -0.0652, -0.0457, -0.0423,
2.0.0098, 0.00569, 0.02027, 0.01935/
DATA HC/5.81E-4, 5.98E-4, 5.52E-4, 4.80E-4,
1.5.78E-4, 6.01E-4, 4.56E-4, 4.33E-4,
2.0.00 , 0.00 , 0.00 , 0.00 ,
DATA HS10/1.45, 1.66, 1.37, 1.27,

```

```

1   1.57, 1.75,    1.48, 1.54,
2   1.03, 1.00,    1.20, 1.19/
DATA HS5/2.50, 2.96,    2.34, 2.46,
1   2.72, 3.06,    2.29, 2.43,
2   1.08, 1.04,    1.33, 1.22/
DATA D/ 0.32, 0.64,    1.03,
1   1.38, 8.61,    6.27,
2   2.25, 5.43,    26.30/

```

C NOMENCLATURE FOR DATA STATEMENTS

```

C      A    = COEFF FOR LDV EQ.
C      B    = COEFF FOR LDV EQ.
C      C    = COEFF FOR LDV EQ.
C      S5   = COEFF FOR LDV LOW SPEED (5 MPH)
C      S10  = COEFF FOR LDV LOW SPEED (10 MPH)
C      HA   = COEFF FOR HDV
C      HB   = COEFF FDR HDV
C      HC   = COEFF FOR HDV
C      HS10 = COEFF FOR HDV LOW SPEED (10 MPH)
C      HS5  = COEFF FOR HDV LOW SPEED (5 MPH)
C      D    = COEFFS FOR HDV DIESEL
C
C      RVP(A,B,C,S)=EXP(A + B*S + C*S*S)
C      SPEED=A*SPD
C      VIPS=1.0
C      VIPF=1.0
IF(ITEMIS.GT.3)RETURN

```

C RETURN IF LDV DIESEL OR MOTORCYCLE

```

C      IF(KVEH.GT.4)RETURN
C      GO TO ( 100,100,140,170 ),KVEH

```

```

C      SELECT PROPER INDICES AND RETURN LDV OR LDV SPEED FACTOR
C
C      KK=IV - 1966
C      IF((KK.LT.1)KK=1
C      IF((KK.GT.5)KK=5
C      IREG=IREGN
C      IF((IREG.EQ.3)IREG=1
C      IF((IREGN.EQ.3)AND.(IV.EQ.1966.OR.IY.EQ.1967))KK=6

```

```

100  IF(AVSPD.LT.14.75) SPEED=14.75
    IF(AVSPD.GT.36.77) SPEED=36.77
    IF(ITEMIS.LT.3)VIPS=RVP(A$KK,IREG,IE$MIS),BS(KK,IREG,IE$MIS),
    + C$KK,IREG,IE$MIS),SPEED)
    IE$MIS.EQ.3)VIPS=AS(KK,IREG,IE$MIS) + SPEED*BS(KK,IREG,IE$MIS)

    SPEED=AVSPD
    IF(SPEED.LT.8.74) SPEED=8.74
    IF(SPEED.GT.55.27) SPEED=55.27
    IF(ITEMIS.LT.3)VIPF=RVP(A$KK,IREG,IE$MIS),BF(KK,IREG,IE$MIS),
    + C$KK,IREG,IE$MIS),SPEED)
    IE$MIS.EQ.3)VIPF=AF(KK,IREG,IE$MIS) + SPEED*BF(KK,IREG,IE$MIS)
    DISPLAY(6)*VIPS,VIPFA,SPD,B,C*
    DISPLAY(6)VIPS,VIPF,A$KK,IREG,IE$MIS),BS(KK,IREG,IE$MIS),
    C RETURN
C   RETURN LOW SPEED LDV FACTOR
C
130  VIP$=S5(KK,IREG,IE$MIS)
    IF(AVSPD.GT.7.5)VIP$=S10(KK,IREG,IE$MIS)
    VIPF=VIP$
    DISPLAY(6)*VIPS,VIPF,S5 S10*
    DISPLAY(6)VIPS,VIPF,S5(KK,IREG,IE$MIS),S10(KK,IREG,IE$MIS)
    RETURN
C   SELECT PROPER INDICES AND RETURN HDV GAS SPEED FACTOR
C
140  KK=1
    IF(IY.GT.1969)KK=2
    IREG=IREGN
    IF(IREGN.EQ.3)IREG=1
    IF(AVSPD.LT.13.160 TO 160
    IF(ITEMIS.LT.3)VIPS=RVP(HA(KK,IREG,IE$MIS),HB(KK,IREG,IE$MIS),
    + HC(KK,IREG,IE$MIS),SPEED)
    IE$MIS.EQ.3)VIPS=HA(KK,IREG,IE$MIS) + SPEED*HB(KK,IREG,IE$MIS)
    VIPF=VIP$
    RETURN
C   RETURN HDV GAS LDV SPEED FACTOR
C
160  VIP$=H55(KK,IREG,IE$MIS)
    IF(AVSPD.GT.7.5)VIP$=HS10(KK,IREG,IE$MIS)
    VIPF=VIP$

```

RETURN

C CALCULATE HDV DIESEL SPEED FACTOR

```
170 IF(AVSPD.GT.18.160 TO 180
     VIPS=(D(1EMIS,2) + (IR./AVSPD - 1.)*D(1EMIS,1))/D(1EMIS,2)
     VIPF=VIPS
     RETURN
180 VIPS=(.4286/AVSPD)*((60. - AVSPD)*D(1EMIS,2) +
     + (AVSPD - 18.)*D(1EMIS,3))/D(1EMIS,2)
     VIPF=VIPS
     RETURN
END
```

LISTING OF EMISSION COMPUTATION MODULE

C PROGRAM ECM

```

C DIMENSION EXHCF(10,24,4),EXHCN(10,24,4),EXCOF(10,24,4),
1 EXCON(10,24,4),EXNOXF(10,24,4),EXNOYN(10,24,4),
2 FSESNF(4,5),FSESNFS(4,5),FDAYF(12,4,5),FDAYS(2,4,5),ITIME(24),
3 FTIMEF(24,2,5),FTIMES(24,2,5),IPKSPF(24,2,5),IPKSPPS(24,2,5),
4 VMTFAC(2),VHR(8,5),EDY(8,5),VMTNDO(10,5,5),
5 VMTFD(10,15,5),VMTFP(10,15,5),PCTVMT(2),CNODEH(5),
6 VTFAC(24,4,2),VMTDOUT(5,4,4)

```

```

C
C READS EMISSION FACTOR DATA AND VMT BY GRID TYPE, SPEED,
C AND COUNTY IDENTIFIER AND COMPUTES BASIN WIDE AND COUNTY
C BY COUNTY HOURLY AND DAILY EMISSIONS.
C ANOTHER PROGRAM, ECMPLT, COMPUTES EMISSIONS BY GRID SQUARE.
C

```

C COUNTY ID = 1	TOTAL SCAB
C	2 LOS ANGELES COUNTY
C	3 ORANGE COUNTY
C	4 RIVERSIDE COUNTY
C	5 SAN BERNARDINO COUNTY

```

C TAPE1 - NAMELIST INPUT (DATIN)
C TAPE2 - OUTPUT OF HOURLY AND DAILY EMISSIONS BY COUNTY AND TOTAL
C TAPE3 - DAILY TOTAL EMISSIONS BY COUNTY - TO TAPE20 OF REPORT
C TAPE4 - GRID TYPE AND COUNTY VMT FILE - FROM TAPE4 OF VAN
C TAPE5 - EMISSION FACTOR FILE - FROM TAPES OF EFM
C TAPE6 - PRINTOUT ANALOGOUS TO TAPE3
C TAPE7 - VMT DATA FOR INPUT TO REPORT - TO TAPE21 OF REPORT
C
C SUBSCRIPTING DEFINITIONS
C INPUT VARIABLES
C VMTNDO(I,K,J)
C VMINP(I,K,J)
C VMTFD(I,K*,J)
C VMTEP(I,K*,J)
C EXHCF(I,J,KK)
C EXHCN(I,J,KK)
C EXCOF(I,J,KK)
C EXCON(I,J,JK,KK)
C EXNOXF(I,J,JK,KK)

```

```

C EXNOXN(I,J,KK)
C OUTPUT VARIABLES
C   EHR(M,J)
C   EDY(M,J)
C   VHTDUT(J,I,L,KK)
C INTERNAL VARIABLES
C   FSESNF(I,KK,K)
C   FSESN(S(KK,K)
C   FDAYFL(L,KK,K)
C   FDAYS(L,KK,K)
C   FTIMEF(J,J,L,K)
C   FTIMES(J,J,L,K)
C   IPKSPP(J,J,L,K)
C   IPKSPS(J,J,L,K)
C   VMTFAC(NN)
C   PCTVMT(NN)
C   VTFAcc(J,J,N,L)
C
C WHERE:
C   I = SPEED
C   J = COUNTY (1=SCAB,2=L.A.,3=ORANGE,4=RIVERSIDE,5=S.B.)
C   K = GRID TYPE
C   K* = 3 * (K - 1) + HDV FREEWAY GRID TYPE
C   JJ = HOUR
C   KK = SEASON
C   M = POLLUTANT
C   L = DAY TYPE
C   N = HDV GRID TYPE (1-3=FREEWAY,4=NON-FWY)
C   NN = NON-FWY
C   LL = 2 * (IDAY - 1) + IROAD
C
C CONSTANT FOR CONVERTING GRAMS TO TONS
DATA CONST/1.1023113E-6/
DATA NPERD,NSPD,NREGN/24,12,5/
NAMELIST/DATIN/FSENFSN,FDAYS,FTIMEF,
          DATA,NPERD,NSPD,NREGN/24,12,5/
1  FTIMES,IPKSPP,IPKSPS,NSESN,NDAY,NRJAD,VTFAC,TNOVEH,
2  PCTVMT,TDTVMT,CNOVEH,TRIPDY,GROWTH,NPERD,NSPD,NREGN
READ(5)TTUMTN001(NSPD,K,IC),ISPD=1,10),K=1,5),IC=1,2)
READ(4)((UMTNP((ISPD,K,IC),ISPD=1,10),K=1,5),IC=1,5)
READ(4)((UMTFP((ISPD,K,IC),ISPD=1,10),K=1,15),IC=1,5)
READ(4)((UMTFP((ISPD,K,IC),ISPD=1,10),K=1,15),IC=1,5)
READ(1,DATAIN,END=990)

```

```

C READ EMISSION FACTORS BY SPEED, HOUR, AND SEASON
C
C 2  READ(5)EXSONX,PART,EDURN,EHOTSK,CRHC
      READ(5)EXXHCF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5)EXXHCN(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5)EXXCOF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5)EXXCJN(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5)EXXNDXF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5)EXXNOXN(I,J,K),I=1,10),J=1,24),K=1,4)

C COMPUTE CONSTANTS FOR INNER LOOP
CONST2=EDURN*CONST1/240.
CONST3=EHOTSK+TRIPDY*INGVE4*CONST1/TDTVMAT

DO 12 I=1,5
DO 12 J=1,4
DO 12 K=1,4
12  VMTOUT(I,J,K)=0.

DO 10 I=1,6
DO 10 J=1,5
DO 10 K=1,4
10  EDY(I,J)=0.
      EHR(I,J)=0.

DO 230 ISESN=1,NSESN
      DO 230 IDAY=1,NDAY
      DO 230 IRAD=1,NRAD
      C   WRITE(2)ISESN,IDAY,IRAD
      C   WRITE(3)ISESN,IDAY,IRAD
      LL=2*(IDAY-1)+IRAD
      DO 100 II=1,8
      DO 100 JU=1,5
      DO 100 EDY(II,JU)=0.
100   DO 220 N=1,24
      DO 120 M=1,9
      DO 120 IC=2,5
      EHR(M,IC)=0.
120   DB 110 K=1,5
      KK=3*(K-1)+1
      KK1=KK+1
      KK2=KK+2
      FSFW=FSESNF(ISESN,K)
      FSFW=FSESN(S(ISESN,K))
      FTFW=FTDAY(FDAY,ISESN,K)*FTIMEF(N,1DAY,K)
      FTFW=FTDAY(FDAY,ISESN,K)*FTIME(S(N,1DAY,K))

```

```

VMTFAC(1)=FSNFW*ETNFW
VMTFAC(2)=FSFW*FTFW
IPK=IPKSPS(N,1DAY,K)
IF(IROAD.FQ,2)IPK=IPKSPF(N,1DAY,K)
DO 140 IZ=1,8
140  ERRIZ,I)=0.

C COMPUTE VMT BASED ON ROAD TYPE, GRID TYPE, AND SPEED FOR
C ALL COUNTIES AND TOTAL
C
DO 170 ISPD=1,10
DO 170 IC=2,5
1F(IROAD,FC,2) GO TO 143
1F(IPK,EQ,1) GO TO 142
VMT=VMTNO(ISPD,K,IC)*VMTFAC(IROAD)*VTFAC(N,4,1DAY)
VMTC=VMTNO(ISPD,K,IC)*FTIMES(N,1DAY,K)
GO TO 145
142 VMT=VMTP(IISPD,K,IC)*VMTFAC(IROAD)*VTFAC(N,4,1DAY)
VMTC=VMTP(IISPD,K,IC)*FTIMES(N,1DAY,K)
GO TO 145
143 IF(IPK,EQ,1) GO TO 144
VMT=VMTFD(IISPD,KK,IC)*VMTFAC(IROAD)*VTFAC(N,1,1DAY)
VMTC=VMTFD(IISPD,KK,IC)*FTIMEF(N,1DAY,K)
VMT=VMT+VMTFD(IISPD,K1,IC)*VMTFAC(IROAD)*VTFAC(N,2,1DAY)
VMTC=VMT+VMTFD(IISPD,K1,IC)*FTIMEF(N,2,1DAY)
VMTC=VMTC+VMTFD(IISPD,KK1,IC)*FTIMEF(N,1DAY,K)
VMT=VMT+VMTFD(IISPD,KK2,IC)*VMTFAC(IROAD)*VTFAC(N,3,1DAY)
VMTC=VMTC+VMTFD(IISPD,KK2,IC)*FTIMEF(N,3,1DAY)
GO TO 145
144 VMT=VMTFP(IISPD,KK,IC)*VMTFAC(IROAD)*VTFAC(N,1,1DAY)
VMTC=VMTFP(IISPD,KK,IC)*FTIMEF(N,1DAY,K)
VMT=VMT+VMTFP(IISPD,K1,IC)*VMTFAC(IROAD)*VTFAC(N,2,1DAY)
VMTC=VMT+VMTFP(IISPD,KK1,IC)*FTIMEF(N,2,1DAY,K)
VMT=VMT+VMTFP(IISPD,KK2,IC)*VMTFAC(IROAD)*VTFAC(N,3,1DAY)
VMTC=VMT+VMTFP(IISPD,KK2,IC)*FTIMEF(N,3,1DAY,K)

C SUM EMISSIONS FOR THIS HOUR OVER ALL SPEEDS FOR EACH
C COUNTY AND TOTAL
C
145 CONTINUE
VMT=VMT*GROWTH
VMOUT(IC,LL,ISESN)=VMOUT(IC,LL,ISESN)+VMT
VMT=VMT*CONST

```

```

EHR(4,IC)=EHR(4,IC)+VMT*EXSDX
EHR(5,IC)=EHR(5,IC)+VMT*PART
DIURN=CONST2*CNDVEH(IC)*PCTVMTH(ROAD)
HOTSK=CONST3*VMTC

EHR(6,IC)=EHR(6,IC)+DIURN*HOTSK
EHR(7,IC)=EHR(7,IC)+VMT*CR4C
IF(ROAD.EQ.2)GO TO 150
EHR(1,IC)=EHR(1,IC)+VMT*EXHCN(ISPD,N,ISESN)
EHR(2,IC)=EHR(2,IC)+VMT*EXCON(ISPD,N,ISESN)
EHR(3,IC)=EHR(3,IC)+VMT*EXNDXN(ISPD,N,ISESN)
GOTO 170
150 EHR(1,IC)=EHR(1,IC)+VMT*EXHCF(ISPD,N,ISESN)
EHR(2,IC)=EHR(2,IC)+VMT*EXCDF(ISPD,N,ISESN)
EHR(3,IC)=EHR(3,IC)+VMT*EXNDXF(ISPD,N,ISESN)

170 CONTINUE
C 180 ENDS GRID TYPE LOOP
180 CONTINUE
DO 185 IC=1,5
  EHR(6,IC)=EHR(1,IC)+EHR(6,IC)+EHR(7,IC)
185
190 EHR(M,1)=EHR(M,2)+EHR(M,3)+EHR(M,4)+EHR(M,5)
C
C WRITE COUNTY AND TOTAL HOURLY RESULTS
C
C WRITE(2)N,((EHR(M,IC),M=1,8),IC=1,5)
C WRITE(6,191) N
C FORMAT(14)
C WRITE(6,192) ((EHR(M,IC),M=1,8),IC=1,5)
C FORMAT(8F9.2)
C
C SUM DAILY EMISSIONS BY COUNTY AND TOTAL
C
C 200 200 M=1,9
  DO 200 IC=1,5
    EDY(M,IC)=EDY(M,IC)+EHR(M,IC)
200
C
C 220 ENDS HOUR LOOP
C
C 220 CONTINUE
C
C WRITE DAILY EMISSIONS FOR TOTAL AND EACH COUNTY.
C

```

```
      WRITE(3)((EDY(M,IC),M=1,8),IC=1,5)
      WRITE(6,222) ISESN,IDAY,IRJAD
222   FORMAT(1$14)
      WRITE(6,192) ((EDY(M,IC),M=1,8),IC=1,5)
      DO 224 IC=2,5
224   VMTOUT(1,LL,ISESN)=VMTOUT(1,LL,ISESN)+VMTOUT(IC,LL,ISESN)
C   230 ENDS SEASON, DAY, AND RDA) TYPE LJDPS
C
C 230  CONTINUE
C
C OUTPUT VMT DATA
C
      DO 240 IC=1,5
240   WRITE(7) ((VMTOUT(IC,I,J),I=1,4),J=1,4)
      END FILE 3
      GO TO 1
      990  END FILE 3
          STOP
      END
```

LISTING OF EMISSION COMPUTATION MODULE FOR PLOTTING

PROGRAM ECMPLT

```

C      DIMENSION EXHCF(10,24,4),EXHCN(10,24,4),EXCOF(10,24,4),
1      EXCON(10,24,4),EXNOXF(10,24,4),EXNOXN(10,24,4),JTYPEG(22,17),
2      FSESNF(4,5),FSESN(4,5),FDAYF(2,4,5),FDAYS(2,4,5),ITIME(24),
3      FTIMEF(24,2,5),FTIMES(24,2,5),IPKSPE(24,2,5),IPKSPS(24,2,5),
4      VMTFAC(2),EHR(8),EDY(374,8),VMTG(134,374),EHRTOT(8),
5      POPG(22,17),FHDT(2),PCTVMT(2),VTFAC(24,4,2),JTYPEG(22,17),
6      E(960)

C      READS EMISSION FACTOR DATA AND VMT BY GRID SQUARE AND SPEED
C      AND COMPUTES HOURLY AND DAILY EMISSIONS FOR EACH GRID SQUARE.

C      TAPE1 - NAMELIST INPUT (DATIN)
C      TAPE2 - OUTPUT - HOURLY EMISSIONS FOR SCAB BY GRID SQUARE
C      TAPE3 - OUTPUT - DAILY EMISSIONS BY GRID SQUARE - TO PLOTTING ROUTINES
C      TAPE4 - GRID SQUARE VMT FILE - FROM TAPE2 OF VAM
C      TAPE5 - EMISSION FACTOR FILE - FROM TAPE2 OF EFM

C      NAMELIST/DATIN/ITYPEG,FSESNF,FSESN,FDAYF,FDAYS,FTIMEF,
1      FTIMES,IPKSPE,IPKSPS,NSESN,NSESN,NDAY,NRJD,VIFAC,MODE,TNOVEH,
2      TRIPDY,TOTVMT,POP,GROWTH,NPERD,NSPD,NXGRID,NYGRID,PCTVMT,
3      JTYPEG,NTYPE

C      MODE = 0 - COMPUTE BY SEASON, WEEK DAY - WEEK END, AND ROAD TYPE
C      1 - USE AVERAGE SEASON FACTORS
C      2 - COMBINE WEEK DAY AND WEEK END FACTORS
C      3 - DO BOTH 1 AND 2

C      CONSTANT FOR CONVERTING GRAMS TO TONS
DATA CONST/1.1023113E-6/
DATA NTYP,NGRID,NSPD/720,374,10/
READ(4) ((VMTG(NSPD,IVMT,IG),ISPD=1,NSPD),IVMT=1,4),IG=1,NGRID)
1      READ(1,DATIN,END=990)

C      READ EMISSION FACTORS BY SPEED, HOUR, AND SEASON

C      READ(5) EXSDX,PART,EDIURN,EHOTSM,CR4C
2      READ(5) (((EXHCF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5) (((EXHCN(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5) (((EXCOF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5) (((EXCON(I,J,K),I=1,10),J=1,24),K=1,4)

```

```

      READ(5) (((EXN)XF(I,J,K),I=1,10),J=1,24),K=1,4)
      READ(5) (((EXN)XN(I,J,K),I=1,10),J=1,24),K=1,4)
      NS=NSESN
      ND=NDAY
      IF(MODE.EQ.0)GO TO 130
      GO TO(100,110,120)*JDE
100   ISN=5
      NS=1
      GO TO 130
      IDY=3
      ND=1
      GO TO 130
      ISN=5
110   IDY=3
      NS=1
      ND=1
      GO TO 130
      ISN=5
120   IDY=3
      NS=1
      ND=1
      GO TO 130
      ISN=5
130   DO 340 ISESN=1,NS
            00 340 1DAY=1,ND
            00 340 1ROAD=1,NROAD
            00 340 1ROAD=1,NROAD
            KJ=4
      IF(MODE.EQ.0)GO TO 135
      ISN=ISESN
      IDY=1DAY
135   CONTINUE
      WRITE(2,132)ISN,IDY,IROAD
      PRINT 132,ISN,IDY,IROAD
      FORMAT(315)
      WRITE(3)ISN,IDY,IRDA0
      DO 140 II=1,8
      DO 140 JU=1,NGRD0
      EDY(JJ,II)=0.
140   ERTDT(W)=0.
      DO 290 IX=1,NPERD
            IY=(IG-1)/NX+1
            IX=IG-(IY-1)*NX
            K=ITYPEG(IX,IY)
            IF(IRDA0.EQ.2) KJ=JTYPEG(IX,IY)
            IF(MODE.EQ.0)GO TO 160
            GO TO(170,190,230)*MODE
            FSFW=FSESNF(ISESN,K)
160

```

```

FSNFW=FSSESN*(ISESN,K)
FTFW=FDAYF(IDAY,ISESN,K)*FTIMEF(N,IDAY,K)
FTNFW=FDAYS(IDAY,ISESN,K)*FTIMES(N,IDAY,K)
FHOT(1)=FTIMES(N,IDAY,K)

FHOT(2)=FTIMEF(N,IDAY,K)
GO TO 220
170 FSFW=1.0
FSNFW=1.0
FTFW=0.
FTNFW=0.

DO 180 IZ=1,NSESN
FTFW=FTFW+FDAYF(IDAY,IZ,K)*FTIMEF(N,IZ,K)/NSESN
180 FTNFW=FTNFW+FDAYS(IDAY,IZ,K)*FTIMES(N,IZ,K)/NSESN
FHJ(1)=FTIMES(N,IDAY,K)
FHOT(1)=FTIMEF(N,IDAY,K)
FHOT(2)=FTIMEF(N,IDAY,K)
GO TO 220
190 FTFW=(5.*FDAYF(1,ISESN,K)*FTIMEF(N,1,K)+  

        2.*FDAYF(2,ISESN,K)*FTIMEF(N,2,K))/7.  

1 FTNFW=(5.*FDAYS(1,ISESN,K)*FTIMES(N,1,K)+  

        2.*FDAYS(2,ISESN,K)*FTIMES(N,2,K))/7.  

1 FHOT(1)=(5.*FTIMES(N,1,K)+2.*FTIMES(N,2,K))/7.  

FHOT(2)=(5.*FTIMEF(N,1,K)+2.*FTIMEF(N,2,K))/7.
GO TO 220
200 FSFW=1.0
FSNFW=1.0
FTFW=0.

FTNFW=0.
DO 210 IZ=1,NSESN
FTFW=FTFW+(5.*FDAYF(1,IZ,K)*FTIMEF(N,I,K)+  

        2.*FDAYF(2,IZ,K)*FTIMEF(N,2,K))/(7.*NSESN)
210 FTNFW=FTNFW+(5.*FDAYS(1,IZ,K)*FTIMES(N,1,K)+  

        2.*FDAYS(2,IZ,K)*FTIMES(N,2,K))/(7.*NSESN)
1 FHOT(1)=(5.*FTIMES(N,1,K)+2.*FTIMES(N,2,K))/7.  

FHOT(2)=(5.*FTIMEF(N,1,K)+2.*FTIMEF(N,2,K))/7.
220 VMTFACT(1)=FSNFW*FTNFW
VMTFAC(2)=FSFW*FTFW
IPK=IPKSPS(N,IDAY,K)
IF(ROAD.EQ.2)IPK=IPKSPF(N,IDAY,K)
IVMT=2*(IRAD-1)+IPK+1

```

C COMPUTE VMT BASED ON ROAD TYPE, GRID TYPE, AND SPEED FOR
C EACH GRID SQUARE AND TOTAL

```

C      DO 230 M=1,8
      EHR(M)=0.
      PRD=NSPD*NPERD
      DO 270 ISPD=1,NSPD
        VMT=GROWTH*VMTG(ISPD,IVMT,IG)*VMTFAC(N,KJ,IDAY)*
        * CONST
        C  SUM EMISSIONS FOR THIS HOUR OVER ALL SPEEDS FOR EACH
        C  GRID SQUARE AND TOTAL
      240    EHR(4)=EHR(4)+VMT*EXSOX
              EHR(5)=EHR(5)+VMT*PART
              DIURN=EDIURN*TNOVEH*POPG(IX,IY)*PCTVMT(TROAD)*CONST/PRD
              HOTS=EHOTSK*TRIPDY*TNOVEH*VMTG(ISPD,IVMT,IG)*FHOT(TROAD)*
              1  CONST/TOTVMT
              EHR(6)=EHR(6)+DIURN+HOTS
              EHR(7)=EHR(7)+VMT*CRHC
              IF(TROAD.EQ.2)GO TO 250
              EHR(1)=EHR(1)+VMT*EXHCFL,N,ISESN)
              EHR(2)=EHR(2)+VMT*EXCOFL,N,ISESN)
              EHR(3)=EHR(3)+VMT*EXCONFL,N,ISESN)
              EHR(3)=EHR(3)+VMT*EXNOXFL,N,ISESN)
              GO TO 260
              EHR(1)=EHR(1)+VMT*EXHCF(L,N,ISESN)
              EHR(2)=EHR(2)+VMT*EXCOFL,N,ISESN)
              EHR(3)=EHR(3)+VMT*EXNOXFL(N,ISESN)
      260    EHR(8)=EHR(1)+EHR(6)+EHR(7)
      270    CONTINUE
        C  WRITE HOURLY RESULTS FOR EACH GRID SQUARE
        C
        C      WRITE(2,272)N,IX,IY,(EHR(M),M=1,8)
      272    FORMAT(1Z,2I3,8F9.5)
        C  SUM ALL GRID SQUARES TO GET EMISSIONS FOR HOUR = EHRTJT
        C
        DO 280 M=1,8
          EDYIG,M)=EDYIG,M)+EHR(M)
      280    EHRTJM)=EHRTJM)+EHR(M)
        C  NEXT STATEMENT ENDS GRID SQUARE LOOP
      290    CONTINUE
        C  PRINT TOTAL SCAB HOURLY EMISSIONS
        PRINT 302,(EHRTJM),M=1,8)
      302    FORMAT(8F9.2)
        C  NEXT STATEMENT ENDS HOUR LOOP

```

```
C      CONTINUE
C      WRITE DAILY EMISSIONS BY GRID SQUARE
C
310  DO 330 M=1,8
      WRITE(3)(EDY(IG,M),IG=1,NGRID)
      PRINT 302,(EDY(IG,M),IG=1,NGRID)
330  CONTINUE
C      NEXT STATEMENT ENDS SEASON, DAY, AND ROAD TYPE LOOPS
C
340  CONTINUE
      END FILE 3
      GO TO 1
      STOP
      END
```

APPENDIX C

SAMPLE OUTPUT LISTING

		SOUTH COAST AIR BASIN			TOTAL HYDROCARBONS		
		EVAPORATIVE			CRANKCASE		
		HYDROCARBONS			HYDROCARBONS		
N-EFWY	FLY	TOTAL	N-EFWY	FLY	TOTAL	N-EFWY	FLY
WINTER							
WEEK DAY	24.9	77.4	102.3	23.0	18.1	41.2	7
WEEK END	17.1	57.8	74.9	23.2	18.0	41.2	4
SPRING							
WEEK DAY	27.0	89.4	116.4	23.0	18.1	41.2	7
WEEK END	18.5	69.8	88.3	23.2	18.0	41.2	5
SUMMER							
WEEK DAY	26.0	90.5	116.5	23.0	18.1	41.2	7
WEEK END	19.0	69.9	87.9	23.2	18.0	41.2	5
FALL							
WEEK DAY	25.5	81.4	106.9	23.0	18.1	41.2	7
WEEK END	16.8	61.1	77.9	23.2	18.0	41.2	4
ANNUAL AVG.							
WEEK DAY	25.9	84.7	116.5	23.0	18.1	41.2	7
WEEK END	17.6	64.7	82.2	23.2	18.0	41.2	4
DAY	23.5	79.0	102.5	23.0	18.0	41.2	6
PICKUP GAS	6000	3.8	13.5	17.3	6.8	5.3	12.1
PICKUP GAS	8500	10.2	34.2	44.4	9.7	7.6	17.3
TRAC.	GAS 10000	.7	2.4	3.1	.4	.3	.7
TRAC.	DSL 10000	2.4	9.3	11.7	0.0	0.0	0.0
BUS	GAS 20000	.8	1.3	2.1	.6	.5	1.1
BUS	DSL 10000	.1	.3	.4	0.0	0.0	0.0
DUMP	GAS 10000	.3	.9	1.2	.4	.3	.6
DUMP	DSL 10000	.2	.6	.8	0.0	0.0	0.0
FLAT.	GAS 6000	.2	.8	1.0	.6	.5	1.0
FLAT.	GAS 8500	.6	2.0	2.6	.7	.6	1.3
FLAT.	GAS 10000	1.3	4.0	5.3	1.5	1.2	2.7
FLAT.	DSL 10000	.1	.3	.3	0.0	0.0	0.0
TANK	GAS 10000	.1	.6	.7	.1	.1	.1
TANK	DSL 10000	.2	.6	.7	0.0	0.0	0.0
VAN	GAS 6000	.2	.6	.8	.2	.5	.3
VAN	GAS 8500	.5	1.6	2.0	.4	.3	.6
VAN	GAS 10000	1.4	4.4	5.9	1.7	1.3	2.9
VAN	DSL 10000	.1	.3	.3	0.0	0.0	0.0
TRAC.	GAS 10000	.1	.3	.4	.1	.1	.1
TRAC.	DSL 10000	.3	1.2	1.5	.3	.3	.5

		LOS ANGELES COUNTY		EVAPORATIVE		CRANKCASE		TOTAL	
		HYDROCARBONS		HYDROCARBONS		HYDROCARBONS		HYDROCARBONS	
		N-NEW FWY	TOTAL	N-NEW FWY	TOTAL	N-NEW FWY	TOTAL	N-NEW FWY	TOTAL
WINTER									
WEEK	DAY	17.2	54.7	71.9	14.9	12.0	26.9	5	2.4
WEEK	END	11.4	38.1	49.5	14.5	12.0	26.9	3	1.3
SPRING									
WEEK	DAY	18.5	62.7	81.2	14.9	12.0	26.9	5	2.1
WEEK	END	12.3	45.4	57.7	14.6	12.0	26.9	3	1.5
SUMMER									
WEEK	DAY	18.2	62.6	80.9	14.9	12.0	26.9	5	2.2
WEEK	END	12.3	45.4	57.7	14.9	12.0	26.9	3	1.6
FALL									
WEEK	DAY	17.7	56.8	74.6	14.9	12.0	26.9	5	2.0
WEEK	END	11.4	39.4	50.6	14.9	12.0	26.9	3	1.4
ANNUAL AVG.									
WEEK	DAY	17.9	59.2	77.1	14.9	12.0	26.9	5	2.1
WEEK	END	11.9	42.1	53.9	14.9	12.0	26.9	3	1.4
	DAY	16.2	54.3	70.5	14.9	12.0	26.9	4	1.9
PICKUP	GAS	6200	2.6	9.2	11.6	4.4	3.6	8.0	0
PICKUP	GAS	8500	7.0	23.4	30.4	6.1	4.9	10.9	2
TRAC.	GAS	10000	5	1.7	2.1	0.3	0.2	0.5	0
TRAC.	DSL	10000	1.7	6.3	8.0	0.6	0.0	0.3	0.0
BUS	GAS	10000	6	0.9	1.5	0.4	0.3	0.8	0
BUS	DSL	10000	2	0.2	0.3	0.0	0.0	0.0	0.0
DUMP	GAS	10000	2	0.6	0.8	0.2	0.2	0.4	0.0
DUMP	DSL	10000	1	0.4	0.6	0.0	0.0	0.0	0.0
FLAT.	GAS	6000	2	0.5	0.7	0.4	0.3	0.7	0.0
FLAT.	DSL	10000	1	0.2	0.2	0.0	0.0	0.0	0.0
TANK	GAS	8500	4	1.4	1.6	0.5	0.4	0.6	0.1
FLAT.	GAS	10000	9	2.8	3.7	1.6	1.0	1.8	0.1
VAN	GAS	6000	1	0.4	0.5	0.0	0.0	0.0	0.0
VAN	GAS	8500	3	1.1	1.4	0.5	0.3	0.6	0.1
TANK	DSL	10000	1	0.4	0.5	0.0	0.0	0.0	0.0
FLAT.	GAS	10000	1	0.4	0.6	0.0	0.0	0.0	0.0
VAN	GAS	10000	1.0	3.1	4.1	1.1	0.9	2.1	0.1
VAN	DSL	10000	1	0.2	0.2	0.0	0.0	0.0	0.0
TRAC.	GAS	NNN CAL	4	2	2	0.3	0.1	0.3	0.1
TRAC.	DSL	NNN CAL	2	0.8	1.0	0.0	0.0	0.0	0.0

		ORANGE COUNTY			CRANKCASE			TOTAL		
		EVAPORATIVE			HYDROCARBONS			HYDROCARBONS		
		HYDROCARBONS			HYDROCARBONS			HYDROCARBONS		
		N-EWY	Fwy	Total	N-EWY	Fwy	Total	N-EWY	Fwy	Total
WINTER										
WEEK DAY	4.7	13.8	18.4	4.4	3.0	7.4	•1	•5	•6	9.2
WEEK END	3.2	11.3	14.4	4.4	3.0	7.4	•1	•4	•5	7.7
SPRING										
WEEK DAY	5.0	16.1	21.1	4.4	3.0	7.4	•1	•6	•7	9.6
WEEK END	3.4	13.9	17.3	4.4	3.0	7.4	•1	•5	•5	7.9
SUMMER										
WEEK DAY	4.9	16.7	21.6	4.4	3.0	7.4	•1	•6	•8	9.5
WEEK END	3.4	14.1	17.4	4.4	3.0	7.4	•1	•5	•6	7.9
FALL										
WEEK DAY	4.8	15.0	19.6	4.4	3.0	7.4	•1	•5	•7	9.3
WEEK END	3.1	12.4	15.6	4.4	3.0	7.4	•1	•4	•5	7.6
ANNUAL AVG.										
WEEK DAY	4.8	15.6	20.2	4.4	3.0	7.4	•1	•6	•7	9.4
WEEK END	3.3	12.9	16.2	4.4	3.0	7.4	•1	•4	•5	7.8
DAY	4.4	14.7	19.1	4.4	3.0	7.4	•1	•5	•6	8.9
PICKUP GAS	6000	•7	2.5	3.2	1.3	•9	2.3	•9	•9	2.1
PICKUP GAS	8500	1.9	6.4	8.3	1.6	1.3	3.1	•1	•3	3.6
TRAC.	GAS 10000	•1	•5	•6	•1	•0	•1	•0	•0	•2
TRAC.	DSL 10000	•5	2.8	2.2	0.0	0.0	0.0	0.0	0.0	•5
BUS	GAS 10000	•2	•2	•4	•1	•1	•2	•0	•0	•3
BUS	DSL 10000	•2	•1	•1	•0.5	•0.5	•0.5	•0.0	•0.0	•1
DUMP	GAS 10000	•0	•1	•2	•0.0	•0.0	•1	•0	•0	•1
DUMP	DSL 10000	•0	•1	•2	•0.0	•0.0	•0.0	•0.0	•0.0	•1
FLAT	GAS 6000	•0	•1	•2	•1	•1	•2	•0	•0	•2
FLAT	GAS 8500	•1	•3	•5	•1	•1	•2	•0	•0	•2
FLAT	GAS 10000	•2	•7	•9	•3	•2	•5	•3	•3	•5
FLAT	DSL 10000	•0	•1	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0
TANK	GAS 10000	•0	•0	•1	•1	•0	•0	•0	•0	•1
VAN	GAS 6000	•0	•1	•1	•0.1	•0.1	•0.1	•0.0	•0.0	•0
VAN	GAS 8500	•1	•3	•4	•1	•1	•2	•0	•0	•2
VAN	GAS 10000	•3	•8	•1.1	•3	•2	•5	•3	•3	•7
VAN	DSL 10000	•0	•0	•0.1	•0.0	•0.0	•0.0	•0.0	•0.0	•0
TRAC	GAS NONCAL	•0	•1	•1	•0.0	•0.0	•0.0	•0.0	•0.0	•1
TRAC	DSL NONCAL	•1	•2	•3	•3	•0.0	•0.0	•0.0	•0.0	•2

RIVERSIDE COUNTY										TOTAL			
EVAPORATIVE CRANKCASE HYDROCARBONS										HYDROCARBONS			
EXHAUST HYDROCARBONS		N-EWY		EWY		TOTAL		N-EWY		EWY		TOTAL	
N-EWY	FWY	N-EWY	FWY	N-EWY	FWY	N-EWY	FWY	N-EWY	FWY	N-EWY	FWY	N-EWY	FWY
WINTER													
WEEK DAY	1.2	2.6	3.8	2.7	2.0	4.0	4.7	0.3	0.1	3.9	4.7	8.6	8.6
WEEK END	1.0	2.7	3.7	2.7	2.0	4.7	4.7	0.1	0.1	3.7	4.8	8.6	8.6
SPRING													
WEEK DAY	1.3	3.2	4.6	2.7	2.0	4.7	4.7	0.1	0.2	4.1	5.3	9.4	9.4
WEEK END	1.1	3.6	4.7	2.7	2.0	4.7	4.7	0.1	0.1	3.8	5.7	9.5	9.5
SUMMER													
WEEK DAY	1.1	3.6	4.7	2.7	2.0	4.7	4.7	0.1	0.2	3.8	5.7	9.5	9.5
WEEK END	0.9	3.6	4.5	2.7	2.0	4.7	4.7	0.1	0.2	3.6	5.7	9.4	9.4
FALL													
WEEK DAY	1.2	2.9	4.1	2.7	2.0	4.7	4.7	0.1	0.1	3.9	5.0	6.9	6.9
WEEK END	0.9	3.2	4.1	2.7	2.0	4.7	4.7	0.1	0.1	3.6	5.3	6.9	6.9
ANNUAL AVG.													
WEEK DAY	1.2	3.1	4.3	2.7	2.0	4.7	4.7	0.1	0.2	3.9	5.2	9.1	9.1
WEEK END	1.0	3.3	4.3	2.7	2.0	4.7	4.7	0.1	0.1	3.7	5.4	9.1	9.1
DAY	1.1	3.1	4.3	2.7	2.0	4.7	4.7	0.1	0.1	3.9	5.3	9.1	9.1
PICKUP GAS	6000	2	5	7	7	5	1.1	0.5	0.3	0.9	1.0	1.9	1.9
PICKUP GAS	8500	5	1.4	1.9	1.4	1.0	2.5	0.0	0.1	1.9	2.5	4.4	4.4
GAS 10000	0	2	1	0.6	0.9	0.1	0.9	0.0	0.0	0.1	0.1	0.2	0.2
DSL 10000	1	4	5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.5
BUS GAS 10000	0	1	0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2
BUS DSL 10000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DUMP GAS 10000	0	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1
DSL 10000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FLAT GAS 6000	0	0	0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1
ELAT. GAS 8500	0	1	1	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.1
FLAT. GAS 10000	0.1	0.1	0.2	0.2	0.1	0.3	0.0	0.0	0.0	0.2	0.3	0.5	0.5
FLAT. DSL 10000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANK GAS 10000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VAN GAS 10000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANK DSL 10000	0.6	0.6	0.6	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VAN GAS 6000	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
VAN GAS 8500	0	0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
VAN GAS 10000	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.3	0.2	0.5	0.5
VAN DSL 10000	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRAC GAS NONCAL	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRAC DSL NONCAL	0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

		SAN BERNARDINO COUNTY				TOTAL HYDROCARBONS			
		EXHAUST		EVAPORATIVE		CRANKCASE		HYDROCARBONS	
		HYDROCARBONS		HYDROCARBONS		HYDROCARBONS		HYDROCARBONS	
N-FWY	FWY	TOTAL	N-FWY	TOTAL	N-FWY	TOTAL	N-FWY	TOTAL	N-FWY
WINTER		1.9	6.3	8.2	1.1	1.0	2.2	.1	.3
WEEK DAY		1.5	5.7	7.2	1.1	1.0	2.2	.0	.2
WEEK END									
SPRING									
WEEK DAY		2.1	7.4	9.5	1.1	1.3	2.2	.1	.3
WEEK END		1.6	6.9	8.6	1.1	1.0	2.2	.0	.2
SUMMER									
WEEK DAY		1.8	7.5	9.3	1.1	1.0	2.2	.1	.3
WEEK END		1.4	6.6	8.2	1.1	1.0	2.2	.0	.2
FALL									
WEEK DAY		1.9	6.7	8.5	1.1	1.3	2.2	.1	.2
WEEK END		1.4	6.0	7.4	1.1	1.0	2.2	.0	.2
ANNUAL AVG.									
WEEK DAY		1.9	7.0	8.9	1.1	1.0	2.2	.4	.3
WEEK END		1.5	6.4	7.9	1.1	1.0	2.2	.0	.2
DAY		1.8	6.8	8.6	1.1	1.3	2.2	.0	.2
PICKUP GAS	6000	.3	1.2	1.5	.4	.4	.8	.0	.0
PICKUP GAS	8500	.8	3.0	3.8	.4	.4	.8	.0	.1
TRAC.	GAS 10000	.0	.2	.3	.0	.0	.0	.0	.0
TRAC.	DSL 10000	.2	.8	1.0	.0	.0	.0	.0	.0
BUS	GAS 10000	.1	.1	.2	.0	.0	.1	.0	.1
BUS	DSL 10000	.0	.0	.0	.0	.0	.0	.0	.0
DUMP	GAS 10000	.0	.1	.1	.0	.0	.0	.0	.0
DUMP	DSL 10000	.0	.1	.1	.0	.0	.0	.0	.0
FLAT.	GAS 6000	.0	.1	.1	.0	.0	.1	.0	.1
FLAT.	GAS 8500	.0	.2	.2	.0	.0	.1	.0	.1
FLAT.	GAS 10000	.1	.3	.4	.1	.1	.3	.0	.0
FLAT.	DSL 10000	.0	.0	.0	.0	.0	.0	.0	.0
TANK	GAS 10000	.0	.0	.0	.1	.0	.0	.0	.0
VAN	GAS 6000	.0	.1	.1	.0	.0	.0	.0	.0
VAN	GAS 8500	.0	.1	.2	.0	.0	.1	.0	.1
VAN	GAS 10000	.1	.4	.5	.1	.1	.3	.0	.2
VAN	DSL 10000	.0	.0	.0	.1	.0	.0	.0	.0
TRAC.	GAS NONCAL	.0	.0	.0	.0	.0	.0	.0	.0
TRAC.	DSL NONCAL	.0	.1	.1	.0	.0	.0	.0	.0

		SOUTH COAST AIR BASIN			PARTICULATES				
		CARBON MONOXIDE		NITROGEN OXIDES	SULFUR DIOXIDE	N-FWY FWY TOTAL			
		N-FWY	FWY	N-FWY	FWY	TOTAL	N-FWY	FWY	TOTAL
WINTER									
WEEK DAY	48.8	98.3	147.1	247.1	711.3	958.4	45.8	237.8	283.6
WEEK END	40.7	77.8	118.5	165.3	515.0	680.3	37.1	199.8	236.9
SPRING									
WEEK DAY	50.9	110.6	161.5	259.8	799.7	1059.5	48.2	268.7	316.9
WEEK END	42.1	90.1	132.2	173.7	606.8	780.4	39.3	236.8	276.0
SUMMER									
WEEK DAY	49.9	111.8	161.7	252.7	617.1	1069.8	47.5	278.6	326.1
WEEK END	41.6	90.3	131.9	170.2	613.8	784.1	39.1	242.8	281.9
FALL									
WEEK DAY	49.4	102.4	151.8	250.1	740.6	990.7	46.8	250.6	297.4
WEEK END	40.4	81.2	121.6	160.7	539.8	700.4	36.6	212.1	248.7
ANNUAL AVG.									
WEEK DAY	49.8	105.7	155.5	252.4	767.2	1019.6	47.1	258.9	306.6
WEEK END	41.2	84.9	126.1	167.5	568.8	736.3	38.0	222.8	260.9
DAY	47.3	99.8	147.1	228.2	716.5	938.7	44.5	248.6	293.1
PICKUP GAS	6000	10.7	19.0	29.7	34.3	100.2	134.4	3.8	25.4
PICKUP GAS	8500	20.2	43.3	63.5	113.6	383.0	496.8	12.3	53.8
TRAC.	GAS 10000	1.1	2.9	3.9	6.8	25.6	32.4	6.6	3.5
TRAC.	DSL 10000	2.4	9.3	11.7	11.5	25.2	36.7	17.9	10.5
BUS	GAS 10000	1.5	1.9	3.4	8.2	12.8	21.0	6.1	12.6
DSL	10000	1	3	4	3	6	10	7	10.2
DUMP	GAS 10000	0.7	1.2	1.9	2.8	8.5	11.2	0.2	1.0
FLAT.	GAS 6000	8	1.2	2.0	2.1	5.7	7.8	0.2	1.3
FLAT.	GAS 8500	1.4	2.6	4.0	6.8	26.4	27.2	6	3.2
FLAT.	DSL 10000	2.8	5.4	8.2	13.5	41.6	55.1	1.1	5.4
VAN	GAS 6000	5	0.9	1.3	0.4	1.5	4.6	0.2	0.5
DUMP	DSL 10000	2	0.6	0.8	1.0	1.9	2.9	1.5	0.5
FLAT.	GAS 10000	0.3	0.7	0.9	1.6	5.8	7.4	0.1	0.1
TANK	DSL 10000	2	0.6	0.7	0.8	1.6	2.4	1.2	0.6
VAN	GAS 6000	5	0.9	1.3	0.4	1.5	4.6	0.2	0.5
VAN	GAS 8500	0.8	1.9	2.8	5.0	17.2	22.2	0.4	2.4
VAN	GAS 10000	3.1	5.9	9.1	15.7	48.6	64.3	1.4	6.6
VAN	DSL 10000	1	0.3	0.3	0.4	0.8	1.2	0.6	0.5
TRAC.	GAS NONCAL	0.1	0.4	0.5	0.6	3.3	4.1	0.1	0.1
TRAC.	DSL NCNCAL	0.3	1.2	1.5	1.1	2.3	3.4	2.4	1.8

LOS ANGELES COUNTY
CARBON MONOXIDE NITROGEN OXIDES SULFUR DIOXIDE PARTICULATES
N-FWY FWY TOTAL N-FWY FWY TOTAL N-FWY FWY TOTAL N-FWY FWY TOTAL

WINTER

	WEEK DAY	32.6	68.7	101.2	171.0	504.8	675.8	30.0	164.5	194.5	2.4	12.0	14.5	2.9	13.5	16.4
WEEK END	26.6	51.4	78.0	110.9	339.4	450.2	23.9	131.6	155.5	2.1	9.7	11.7	2.2	10.5	12.6	
SPRING																
WEEK DAY	33.9	76.6	110.7	178.9	562.8	741.8	31.5	184.2	215.6	2.5	13.1	15.7	2.9	14.8	17.7	
WEEK END	27.5	58.8	86.4	116.4	394.1	513.5	25.3	153.8	179.6	2.1	11.8	13.1	2.3	12.0	14.3	
SUMMER																
WEEK DAY	33.7	76.8	110.5	177.8	568.0	745.8	31.7	188.3	220.0	2.6	13.6	16.2	3.0	15.3	18.3	
WEEK END	27.5	58.9	86.5	117.0	398.6	515.5	25.6	157.6	183.4	2.2	11.4	13.6	2.4	12.5	14.9	
FALL																
WEEK DAY	33.1	70.9	104.0	174.4	516.4	693.8	30.9	171.2	202.1	2.5	12.5	15.0	2.9	14.4	17.0	
WEEK END	26.6	52.8	79.4	109.3	346.5	457.8	23.9	136.5	160.6	2.1	10.5	12.6	2.3	11.5	13.6	
ANNUAL AVG.																
WEEK DAY	33.3	73.3	106.6	175.5	538.8	714.3	31.0	177.0	208.1	2.5	12.8	15.3	2.9	14.4	17.3	
WEEK END	27.1	55.5	82.6	113.4	370.2	483.5	24.7	145.0	169.7	2.1	10.5	12.6	2.3	11.5	13.2	
DAY	31.5	68.2	99.7	157.8	490.6	648.4	29.2	167.9	197.1	2.4	12.2	14.6	2.6	13.6	16.3	

ANNUAL AVG.

PICKUP GAS	6000	7.0	13.6	20.6	23.5	69.3	92.3	2.5	17.1	19.6	2	6	9	3	1.3	1.6
PICKUP GAS	5500	13.3	29.4	42.6	78.5	262.6	341.0	6.7	36.4	43.1	2	6	9	1.1	.6	2.9
TRAC. GAS	10000	.7	2.0	2.7	4.8	17.4	22.1	.4	2.3	2.7	.0	.1	.1	.1	.3	.3
TRAC. DSL	10000	1.7	6.3	8.0	8.2	17.7	25.9	11.8	71.1	82.8	1.4	7.4	8.8	1.1	.8	6.9
BUS GAS	10000	1.0	1.3	2.3	5.7	6.8	14.5	.4	1.1	1.5	.0	.0	.0	.0	.1	.2
BUS DSL	10000	.1	.2	.3	.2	.5	.7	.4	2.3	2.6	.3	.2	.3	.0	.1	.2
DUMP GAS	10000	.4	.6	1.3	1.9	6.0	7.9	.1	.7	.8	.0	.0	.0	.0	.1	.1
DUMP DSL	10000	.1	.4	.6	.7	1.4	2.1	1.0	4.9	5.8	.1	.5	.6	.1	.3	.4
FLAT. GAS	6000	.5	.8	1.4	1.4	4.1	5.5	.1	.9	1.0	.0	.0	.0	.1	.0	.1
FLAT. GAS	8500	.9	1.6	2.7	4.7	14.4	19.1	.4	1.8	2.2	.0	.0	.1	.0	.2	.2
FLAT. GAS	10000	1.9	3.8	5.7	9.4	29.3	38.7	.7	3.7	4.5	.0	.1	.1	.1	.4	.5
FLAT. DSL	10000	.1	.2	.2	.3	.6	.8	.4	2.0	2.4	.6	.2	.2	.0	.1	.2
TANK GAS	10000	.2	.4	.6	1.1	4.0	5.1	.1	.5	.6	.0	.3	.5	.0	.1	.4
TANK DSL	10000	.1	.4	.5	.5	1.1	1.7	.8	4.6	5.4	.1	.5	.6	.1	.3	.4
VAN GAS	6000	.3	.6	.9	1.0	3.2	4.2	.1	.3	.9	.0	.0	.0	.0	.1	.1
VAN GAS	8500	.6	1.3	1.9	3.4	11.8	15.2	.3	1.6	1.9	.0	.0	.1	.0	.1	.2
VAN GAS	10000	2.2	4.2	6.4	10.9	34.3	45.1	.9	4.5	5.4	.0	.1	.1	.1	.4	.5
VAN DSL	10000	.1	.2	.2	.3	.6	.8	.4	2.3	2.4	.4	.2	.2	.0	.1	.2
TRAC. GAS NONCAL																
TRAC. DSL NONCAL																

		CARBON MONOXIDE			NITROGEN OXIDES			SULFUR DIOXIDE			PARTICULATES		
		N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL
WINTER													
WEEK DAY	9.2	17.3	26.5	45.6	125.5	171.1	9.6	44.1	53.6	.8	3.2	4.0	.9
WEEK END	7.7	14.7	22.3	30.2	100.1	130.3	7.6	39.3	47.0	.6	2.5	3.5	.7
SPRING													
WEEK DAY	9.6	19.7	29.3	47.8	142.7	190.5	10.1	50.4	60.5	.8	3.6	4.4	.9
WEEK END	7.9	17.4	25.3	31.7	120.6	152.3	8.1	47.8	55.8	.7	3.4	4.1	.7
SUMMER													
WEEK DAY	9.5	20.4	29.8	47.2	149.7	196.9	10.1	53.7	63.8	.8	3.9	4.7	.9
WEEK END	7.9	17.5	25.4	31.6	123.0	154.6	8.2	49.4	57.6	.7	3.6	4.3	.7
ANNUAL AVG.													
WEEK DAY	9.3	18.5	27.9	46.4	135.6	181.4	9.9	48.0	57.8	.8	3.5	4.3	.9
WEEK END	7.6	15.9	23.5	29.6	106.4	139.0	7.6	43.6	51.2	.6	3.2	3.8	.7
FALL													
WEEK DAY	9.4	19.0	28.4	46.7	138.2	185.0	9.9	49.0	58.9	.8	3.5	4.3	.9
WEEK END	7.8	16.4	24.1	20.6	113.3	144.0	7.9	45.0	52.9	.6	3.3	3.9	.7
DAY	8.0	18.2	27.2	42.2	131.1	173.3	9.3	47.9	57.2	.7	3.5	4.2	.8
PICKUP GAS	6000	2.1	3.5	5.5	6.4	16.4	24.8	.8	4.9	5.6	.0	.2	.4
PICKUP GAS	8500	3.9	7.9	11.7	21.1	71.3	92.4	2.1	10.2	12.4	.1	.3	.6
TRAC.	GAS 10000	2	5	7	1.3	4.9	6.2	.1	7	8	.6	.0	.1
TRAC.	DSL 10000	5	1.8	2.2	2.0	4.6	6.7	3.8	20.7	24.5	.4	2.2	2.9
BUS	GAS 10000	3	3	6	1.5	2.4	3.9	.1	3	4	.0	.0	.0
BUS	DSL 10000	6	1	1	.1	.2	.1	.7	.8	.0	.1	.0	.0
DUMP	GAS 10000	1	2	3	.5	1.5	2.0	.0	.2	.2	.0	.0	.0
DUMP	DSL 10000	0	1	2	.2	.3	.5	.3	1.3	1.6	.0	.1	.2
FLAT.	GAS 6000	2	2	4	.4	1.0	1.4	.0	.2	.3	.0	.0	.0
FLAT.	GAS 8500	3	5	7	1.3	3.6	4.9	.1	.5	.6	.0	.3	.5
FLAT.	DSL 10000	5	1.0	1.5	2.5	7.4	9.9	.2	1.0	1.2	.0	.0	.1
FLAT.	GAS 10000	5	1.0	1.5	2.5	7.4	9.9	.2	1.0	1.2	.0	.0	.1
FLAT.	DSL 10000	0	0	1	.1	.1	.2	.1	.5	.7	.0	.1	.1
TANK	GAS 10000	1	1	2	.3	1.1	1.4	.0	.2	.2	.0	.0	.0
TANK	DSL 10000	0	1	1	.1	.1	.4	.0	.2	.2	.0	.0	.1
VAN	GAS 6000	1	2	2	.3	.8	1.1	.0	.2	.3	.0	.0	.0
VAN	GAS 8500	1	4	5	.9	3.2	4.1	.1	.5	.5	.0	.3	.5
VAN	GAS 10000	6	1.0	1.6	2.9	8.6	11.5	.3	1.2	1.5	.0	.2	.1
VAN	DSL 10000	0	0	1	.1	.1	.2	.1	.5	.7	.1	.0	.0
TRAC.	GAS 10000	0	1	1	.1	.6	.8	.0	.1	.1	.0	.0	.0
TRAC.	DSL 10000	1	2	3	.2	.6	.4	.1	.1	.1	.0	.0	.2

		HYDROCARBONS			SULFUR DIOXIDE			PARTICULATES			NITROGEN OXIDES			TOTAL			N-FWY	FHWY	N-FWY	FHWY	N-FWY	FHWY	TOTAL
		N-FWY	FHWY	TOTAL	N-FWY	FHWY	TOTAL	N-FWY	FHWY	TOTAL	N-FWY	FHWY	TOTAL	N-FWY	FHWY	TOTAL	N-FWY	FHWY	N-FWY	FHWY	N-FWY	FHWY	TOTAL
WINTER																							
WEEK DAY	3.9	4.7	8.6	11.6	23.6	35.2	2.6	8.7	11.3	2	6	8	.2	.2	.7	0.9	0.9	0.2	.2	.7	0.7	0.9	
WEEK END	3.7	4.8	8.6	9.5	24.6	34.1	2.4	9.4	11.8	2	7	9	.2	.2	.7	0.9	0.9	0.2	.2	.7	0.7	1.0	
SPRING																							
WEEK DAY	4.1	5.3	9.4	12.7	28.5	41.2	2.8	10.6	13.4	2	7	10	.2	.2	.7	1.0	1.0	.2	.2	.6	1.1	1.1	
WEEK END	3.8	5.7	9.5	10.0	31.6	41.6	2.5	12.1	14.7	2	9	11	.2	.2	.9	1.1	1.1	.2	.2	.6	0.9	1.2	
SUMMER																							
WEEK DAY	3.8	5.7	9.5	10.4	31.9	42.3	2.4	12.0	14.4	2	9	11	.2	.2	.9	1.0	1.0	.2	.2	1.0	1.0	1.2	
WEEK END	3.6	5.7	9.4	6.4	32.0	40.4	2.1	12.5	14.6	2	9	11	.2	.2	.9	1.1	1.1	.2	.2	1.0	1.0	1.2	
FALL																							
WEEK DAY	3.0	5.0	8.9	11.1	26.1	37.2	2.5	9.8	12.3	2	7	9	.2	.2	.7	0.9	0.9	.2	.2	.6	1.0	1.0	
WEEK END	3.6	5.3	8.9	8.5	28.1	36.6	2.2	10.9	13.1	2	8	10	.2	.2	.8	1.0	1.0	.2	.2	.9	0.9	1.1	
ANNUAL AVG.																							
WEEK DAY	3.9	5.2	9.1	11.4	27.5	39.0	2.6	10.3	12.9	2	7	9	.2	.2	.7	0.9	0.9	.2	.2	.8	1.0	1.0	
WEEK END	3.7	5.4	9.1	9.2	29.1	38.2	2.3	11.2	13.5	2	8	10	.2	.2	.8	1.0	1.0	.2	.2	.9	0.9	1.1	
DAY	3.9	5.3	9.1	10.8	28.0	38.7	2.5	10.6	13.4	2	8	10	.2	.2	.8	0.9	0.9	.2	.2	0.6	0.6	1.1	
PICKUP GAS	6000	0	1.0	1.6	1.7	3.9	5.6	0.2	1.1	1.3	0	0	0	0	0	0	0	0	0	0	0	0.1	
PICKUP GAS	8500	1.9	2.5	4.4	5.5	15.6	21.3	.6	2.3	2.9	0	0	0	0	0	0	0	0	0	0	0	0.2	
TRAC.	GAS 10000	0.1	0.1	0.2	0.3	1.1	1.4	0	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0.6	
TRAC.	DSL 10000	0.1	0.4	0.5	0.5	0.9	1.4	1.6	4.6	5.5	0.1	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.1	0.4	0.5	0.6	
BUS	GAS 10000	0.1	0.1	0.2	0.4	0.5	0.9	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
BUS	DSL 10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DUMP	GAS 10000	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.6	0.9	0.1	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	
DUMP	DSL 10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FLAT.	GAS 6000	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
FLAT.	GAS 8500	0.1	0.1	0.3	0.3	0.3	0.7	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
FLAT.	GAS 10000	0.2	0.3	0.5	0.6	1.5	2.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
TANK	DSL 10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VAN	GAS 6000	0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
VAN	GAS 8500	0	0.1	0.1	0.1	0.1	0.2	0.7	0.9	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
VAN	GAS 10000	0.2	0.3	0.5	0.7	1.7	2.5	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	
VAN	DSL 10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TRAC.	GAS NONCAL	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	
TRAC.	DSL NONCAL	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	

		SAN BERNARDINO COUNTY			SULFUR DIOXIDE			PARTICULATES		
		CARBON MONOXIDE	NITROGEN OXIDES	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL
WINTER										
WEEK DAY	3.1	7.6	10.7	18.9	57.5	76.3	3.6	20.5	24.1	3.1
WEEK END	2.7	6.9	9.6	14.8	51.0	65.7	3.2	19.4	22.6	3.0
SPRING										
WEEK DAY	3.3	8.7	12.0	20.4	65.6	86.0	3.9	23.5	27.4	3.3
WEEK END	2.8	8.2	11.0	15.5	60.5	76.0	3.4	23.1	26.5	3.0
SUMMER										
WEEK DAY	3.0	8.9	11.8	17.3	67.5	84.8	3.4	24.5	27.9	3.1
WEEK END	2.6	8.4	10.7	13.3	60.2	73.6	3.0	23.3	26.3	2.2
FALL										
WEEK DAY	3.0	8.6	11.6	18.2	60.1	78.3	3.5	21.7	25.2	3.1
WEEK END	2.6	7.3	9.8	13.3	53.7	67.1	3.0	20.7	23.6	2.2
ANNUAL AVG.										
WEEK DAY	3.1	8.3	11.4	18.7	62.7	81.4	3.6	22.6	26.2	3.1
WEEK END	2.7	7.6	10.3	14.2	56.3	70.6	3.2	21.6	24.8	3.0
DAY	3.0	8.1	11.1	17.4	60.9	78.3	3.5	22.3	25.0	3.1
PICKUP GAS 6000	.7	1.6	2.2	2.7	8.5	11.2	.3	2.3	2.6	.0
PICKUP GAS 8500	1.2	3.5	4.7	8.8	33.5	42.3	.9	4.9	5.7	.2
TRAC. GAS 10000	.1	.2	.3	.5	2.2	2.7	.6	3.4	4.0	.0
TRAC. DSL 10000	.2	.8	1.0	.8	2.0	2.8	1.4	9.4	10.7	.2
BUS GAS 10000	.1	.2	.3	.6	1.1	1.7	.6	.1	.2	.0
BUS DSL 10000	.0	.0	.0	.0	0.0	.1	.3	.4	.0	.0
DUMP GAS 10000	.0	.1	.1	.2	.7	.9	.0	.1	.1	.0
DUMP DSL 10000	.0	.1	.1	.1	.1	.2	.1	.1	.1	.0
FLAT. GAS 6000	.1	.1	.1	.2	.5	.6	.0	.1	.1	.0
FLAT. GAS 8500	.1	.2	.3	.5	1.7	2.2	.0	.2	.3	.0
FLAT. GAS 10000	.2	.4	.6	1.0	3.4	4.4	.4	.5	.6	.1
FLAT. DSL 10000	.0	.0	.0	.0	.1	.2	.1	.1	.1	.0
TANK GAS 10000	.0	.1	.1	.1	.5	.6	.0	.1	.1	.0
TANK DSL 10000	.0	.0	.0	.0	.1	.2	.1	.1	.1	.0
VAN GAS 6000	.0	.1	.1	.2	.4	.5	.0	.1	.1	.0
VAN GAS 8500	.1	.2	.2	.4	1.5	1.9	.0	.2	.3	.0
VAN GAS 10000	.2	.5	.7	1.2	4.0	5.2	.1	.6	.7	.1
VAN DSL 10000	.0	.0	.0	.0	.1	.1	.0	.1	.1	.0
TRAC. GAS NCNCAL	.0	.0	.0	.1	.3	.3	.0	.0	.0	.0
TRAC. DSL NCNCAL	.0	.1	.1	.1	.2	.2	.0	.1	.1	.1

SOUTH COAST AIR BASIN

	NON-FREEWAY	FREEWAY	TOTAL
	VMT	VMT	VMT

WINTER			
	WEEK DAY	WEEK END	
SPRING	2.9834E+06 2.3634E+06	1.3042E+07 1.0811E+07	1.6026E+07 1.3174E+07
SUMMER	3.0738E+06 2.4363E+06	1.4368E+07 1.2453E+07	1.7442E+07 1.4884E+07
FALL			
ANNUAL AVG.	WEEK DAY WEEK END	3.0388E+06 2.3188E+06	1.3681E+07 1.1421E+07
	WEEK DAY WEEK END	3.0399E+06 2.3917E+06	1.4045E+07 1.1914E+07
	DAY	2.8547E+06	1.3436E+07
PICKUP GAS	6000	7.0871E+05	3.2573E+06
PICKUP GAS	8500	7.5721E+05	3.4739E+06
TRAC.	GAS 10000	4.4909E+04	2.2776E+05
TRAC.	DSL 10000	6.7253E+05	3.5686E+06
BUS	GAS 10000	4.9074E+04	1.1060E+05
BUS	DSL 10000	2.3762E+04	1.0884E+05
DUMP	GAS 15000	1.7056E+04	7.0978E+04
DUMP	DSL 10000	5.5571E+04	2.3209E+05
FLAT.	GAS 6000	3.9843E+04	1.6792E+05
FLAT.	GAS 8500	4.2982E+04	1.7690E+05
FLAT.	GAS 10000	8.5963E+04	3.6082E+05
FLAT.	DSL 10000	2.2046E+04	9.4532E+04
TANK	GAS 10000	1.0576E+04	5.2342E+04
TANK	DSL 10000	4.3947E+04	2.2636E+05
VAN	GAS 6000	3.1702E+04	1.5000E+05
VAN	GAS 8500	3.2954E+04	1.5621E+05
VAN	GAS 10000	1.0211E+05	4.3147E+05
VAN	DSL 10000	2.2046E+04	9.4532E+04
TRAC	GAS NONCAL	5.2191E+03	2.8943E+04
TRAC	DSL NONCAL	8.6540E+04	4.4581E+05

LOS ANGELES COUNTY
FREEWAY
NON-FREEWAY
VMT **VMT** **TOTAL**

WINTER		WEEK DAY	1.9786E+06	9.0865E+06	1.1065E+07
WEEK END		1.5315E+06	7.1276E+06	8.6592E+06	
SPRING		WEEK DAY	2.0282E+06	9.9231E+06	1.1951E+07
WEEK END		1.5748E+06	8.0931E+06	9.6679E+06	
SUMMER		WEEK DAY	2.0677E+06	1.0203E+07	1.2350E+07
WEEK END		1.6301E+06	8.4253E+06	1.0055E+07	
FALL		WEEK DAY	2.0311E+06	9.4169E+06	1.1448E+07
WEEK END		1.5240E+06	7.3786E+06	8.9026E+06	
ANNUAL AVG.		WEEK DAY	2.0264E+06	9.6773E+06	1.1764E+07
WEEK END		1.5651E+06	7.7562E+06	9.3213E+06	
DAY		1.8946E+06	9.1284E+06	1.1023E+07	
PICKUP	GAS	6000	4.6876E+05	2.2129E+06	2.6817E+06
PICKUP	GAS	8500	5.0089E+05	2.3601E+06	2.8610E+06
TRAC.	GAS	10000	2.9984E+04	1.5351E+05	1.8350E+05
TRAC.	DSL	10000	4.4890E+05	2.4053E+06	2.6542E+06
BUS	GAS	10000	3.2542E+04	7.5154E+04	1.0765E+05
BUS	DSL	19000	1.5721E+04	7.3902E+04	8.9623E+04
DUMP	GAS	10000	1.1338E+04	4.9284E+04	6.0622E+04
DUMP	DSL	20000	3.6906E+04	1.6121E+05	1.9812E+05
FLAT.	GAS	6000	2.6471E+04	1.1663E+05	1.4310E+05
FLAT.	GAS	8500	2.6549E+04	1.2285E+05	1.514CE+05
FLAT.	GAS	10000	5.7097E+04	2.5066E+05	3.6770E+05
FLAT.	DSL	15000	1.4641E+04	6.5649E+04	8.0290E+04
TANK	GAS	10000	7.0574E+03	3.5298E+04	4.2356E+04
TANK	DSL	10000	2.9342E+04	1.6264E+05	1.8194E+05
VAN	GAS	6000	2.3954E+04	1.0189E+05	1.2285E+05
VAN	GAS	8500	2.1779E+04	1.0612E+05	1.2789E+05
VAN	GAS	10000	6.7796E+04	2.9969E+05	3.6748E+05
VAN	DSL	10000	1.4641E+04	6.5649E+04	8.0290E+04
TRAC	GAS NONCAL	3.4739E+03	1.0521E+04	2.2995E+04	
TRAC	DSL NONCAL	5.7746E+04	3.0050E+05	3.5625E+05	

		NON-FREEWAY	ORANGE COUNTY	FREEWAY	TOTAL
		VMT	VMT	VMT	VMT
WINTER					
WEEK DAY	6.0863E+05	2.3837E+06	2.9923E+06		
WEEK END	4.7334E+05	2.1166E+06	2.5900E+06		
SPRING					
WEEK DAY	6.2454E+05	2.6574E+06	3.2820E+06		
WEEK END	4.6673E+05	2.4945E+06	2.9812E+06		
SUMMER					
WEEK DAY	6.3383E+05	2.8670E+06	3.5008E+06		
WEEK END	5.0130E+05	2.6186E+06	3.1198E+06		
FALL					
WEEK DAY	6.2381E+05	2.5825E+06	3.2063E+06		
WEEK END	4.6965E+05	2.3313E+06	2.8099E+06		
ANNUAL AVG.					
WEEK DAY	6.22270E+05	2.6226E+06	3.2454E+06		
WEEK END	4.8275E+05	2.3903E+06	2.8730E+06		
DAY	5.8272E+05	2.55263E+06	3.1398E+06		
PICKUP GAS	6000	1.4428E+05	1.1562E+05	7.5996E+05	
PICKUP GAS	6500	1.5416E+05	1.5657E+05	8.1073E+05	
TRAC.	GAS 10000	9.2110E+03	4.4478E+04	5.3689E+04	
TRAC.	DSL 10000	1.3791E+05	6.9696E+05	8.3487E+05	
BUS	GAS 10000	1.0011E+04	2.0921E+04	3.0931E+04	
BUS	DSL 10000	4.8384E+03	2.0605E+04	2.5444E+04	
DUMP GAS	10000	3.4860E+03	1.2910E+04	1.6396E+04	
DUMP DSL	10000	1.1349E+04	4.2171E+04	5.3520E+04	
FLAT.	GAS 6000	8.1398E+03	3.0517E+04	3.8657E+04	
FLAT.	GAS 8500	8.7791E+03	3.2166E+04	4.0945E+04	
FLAT.	GAS 10000	1.7558E+04	6.5584E+04	8.3143E+04	
FLAT.	DSL 10000	4.5025E+03	1.7185E+04	2.1688E+04	
TANK	GAS 10000	2.1662E+03	1.02062E+04	1.2375E+04	
TANK	DSL 10000	9.0137E+02	4.4183E+04	5.2197E+04	
VAN	GAS 6000	6.4501E+03	2.8363E+04	3.4813E+04	
VAN	GAS 8500	6.7043E+03	2.9533E+04	3.6238E+04	
VAN	GAS 10000	2.0850E+04	7.8407E+04	9.9257E+04	
VAN	DSL 10000	4.5025E+03	1.7185E+04	2.1688E+04	
TRAC.	GAS NONCAL	1.0678E+03	5.6348E+03	6.7026E+03	
TRAC.	DSL NONCAL	1.7741E+04	6.7046E+04	1.0479E+05	

RIVERSIDE COUNTY
NON-FREEWAY FREEWAY
TOTAL
VMT VMT VMT

WINTER		WEEK DAY	1.6230E+05	4.6483E+05	6.2713E+05
WEEK END		1.4923E+05	5.1068E+05	6.5989E+05	
SPRING		WEEK DAY	1.7314E+05	5.5029E+05	7.2334E+05
WEEK END		1.5345E+05	6.4160E+05	7.9505E+05	
SUMMER		WEEK DAY	1.4604E+05	6.3083E+05	7.7687E+05
WEEK END		1.3217E+05	6.7021E+05	8.0239E+05	
FALL		WEEK DAY	1.5624E+05	5.1768E+05	6.7343E+05
WEEK END		1.3412E+05	5.8966E+05	7.2378E+05	
ANNUAL AVG.		WEEK DAY	1.5943E+05	5.4089E+05	7.0032E+05
WEEK END		1.4224E+05	6.0394E+05	7.4527E+05	
DAY		1.5452E+05	5.5864E+05	7.1316E+05	
PICKUP GAS		GAS	6000	3.9262E+04	1.3609E+05
PICKUP GAS		GAS	8500	4.1931E+04	1.4515E+05
TRAC.		GAS	10000	2.3274E+03	9.7412E+03
TRAC.		DSL	10000	3.4929E+04	1.5246E+05
BUS		GAS	10000	2.6717E+03	4.6367E+03
AUS		DSL	10000	1.3143E+03	4.5642E+03
DUMP		GAS	10000	9.1272E+02	2.6574E+03
DUMP		DSL	10000	2.9937E+03	6.6954E+03
FLAT.		GAS	6000	2.1403E+03	6.2912E+03
FLAT.		GAS	6500	2.3133E+03	6.6215E+03
FLAT.		GAS	10000	4.6266E+03	1.3510E+04
FLAT.		DSL	10000	1.1876E+03	3.5411E+03
TANK		GAS	10000	5.5018E+02	2.2324E+03
TANK		DSL	10000	2.2780E+03	9.6745E+03
VAN		GAS	6000	1.7651E+03	6.2679E+03
VAN		GAS	8500	1.8364E+03	6.5301E+03
VAN		GAS	10000	5.5210E+03	1.6162E+04
VAN		DSL	10000	1.1678E+03	3.5411E+03
TRAC.		GAS	NONCAL	2.7665E+02	4.2326E+03
TRAC.		DSL	NONCAL	4.5049E+03	1.9042E+04

	SAN BERNARDINO COUNTY			TOTAL
	NON-FREWAY	FREWAY	VMT	VMT
WINTER				
WEEK DAY	2.3390E+05	1.1074E+06	1.3413E+06	
WEEK END	2.0932E+05	1.0560E+06	1.2653E+06	
SPRING				
WEEK DAY	2.4769E+05	1.2374E+06	1.4853E+06	
WEEK END	2.1527E+05	1.0224E+06	1.4393E+06	
SUMMER				
WEEK DAY	2.1616E+05	1.3069E+06	1.5231E+06	
WEEK END	1.9085E+05	1.2557E+06	1.4466E+06	
FALL				
WEEK DAY	2.2768E+05	1.1643E+06	1.3919E+06	
WEEK END	1.9108E+05	1.1213E+06	1.3123E+06	
ANNUAL AVG.				
WEEK DAY	2.3141E+05	1.2040E+06	1.4354E+06	
WEEK END	2.0163E+05	1.1643E+06	1.3659E+06	
DAY	2.2293E+05	1.1926E+06	1.4155E+06	
PICKUP GAS	6000	5.6366E+04	2.9264E+05	3.4902E+05
PICKUP GAS	8500	6.0224E+04	3.1210E+05	3.7232E+05
TRAC.	GAS 10000	3.3861E+03	2.0034E+04	2.3420E+04
TRAC.	DSL 10000	5.0795E+04	3.1387E+05	3.6467E+05
BUS	GAS 10000	3.8498E+03	9.9379E+03	1.3788E+04
BUS	DSL 10000	1.6661E+03	9.7725E+03	1.1661E+04
DUMP	GAS 10000	1.3195E+03	6.1268E+03	7.4463E+03
DUMP	DSL 10000	4.3224E+03	2.0014E+04	2.4332E+04
FLAT.	GAS 6000	3.0929E+03	1.4479E+04	1.7571E+04
FLAT.	GAS 8500	3.3407E+03	1.5256E+04	1.8597E+04
FLAT.	GAS 10000	6.6813E+03	3.1118E+04	3.7561E+04
TANK	DSL 10000	3.3141E+03	8.1565E+03	9.6715E+03
TANK	GAS 10000	7.9983E+02	4.6047E+03	5.4045E+03
TANK	DSL 10000	3.3141E+03	1.9944E+04	2.3214E+04
VAN	GAS 6000	2.5326E+03	1.3474E+04	1.6006E+04
VAN	GAS 8500	2.6345E+03	1.4031E+04	1.6666E+04
VAN	GAS 10000	7.9537E+03	3.7210E+04	4.5164E+04
VAN	DSL 10000	1.7150E+03	8.1565E+03	9.6715E+03
TRAC.	GAS NCNCAL	4.0070E+02	2.9547E+03	2.9554E+03
TRAC.	DSL NCNCAL	6.5482E+03	3.9213E+04	4.5761E+04

SOUTH COAST AIR BASIN		EVAPORATIVE		CRANKCASE		TOTAL	
EXHAUST		HYDROCARBONS		HYDROCARBONS		HYDROCARBONS	
N-EFWY	FWY	TOTAL	N-EFWY	FWY	TOTAL	N-EFWY	TOTAL
WINTER							
WEEK	DAY	22.8	71.0	93.8	12.3	9.6	21.9
WEEK	END	15.8	53.3	69.1	12.3	9.6	21.9
SPRING	DAY	25.0	83.1	108.2	12.3	9.6	21.9
WEEK	END	17.2	65.3	82.6	12.3	9.6	21.9
SUMMER	DAY	24.0	63.5	107.5	12.3	9.6	21.9
WEEK	END	16.7	65.0	81.6	12.3	9.6	21.9
FALL	DAY	23.4	74.9	98.3	12.3	9.6	21.9
WEEK	END	16.3	60.0	76.3	12.3	9.6	21.9
ANNUAL AVG.	DAY	21.7	73.0	94.6	12.3	9.6	21.9
PICKUP GAS 6000		3.9	14.1	18.0	3.1	2.4	5.6
PICKUP GAS 8500		9.1	30.5	39.6	5.4	4.2	9.7
TRAC. GAS 10000		6	2.2	2.6	2	2	4
TRAC. DSL 10000		2.2	8.3	10.5	6.0	6.0	10.5
BUS GAS 10000		8	1.2	1.9	4	3	7
BUS DSL 10000		1	0.3	0.3	0.0	0.6	0.6
DUMP GAS 12000		3	0.8	1.1	2	2	4
DUMP DSL 10000		2	0.6	0.7	0.0	0.0	0.0
FLAT. GAS 6000		2	0.8	1.0	0.3	0.5	0.8
FLAT. GAS 8500		6	1.7	2.3	1.4	0.8	2.3
TANK DSL 10000		1.2	3.6	4.7	0.7	1.5	2.2
VAN GAS 6000		1	0.2	0.3	0.0	0.3	0.3
VAN GAS 8500		1	0.5	0.6	0.1	0.2	0.2
FLAT. GAS 10000		1	0.5	0.7	0.0	0.0	0.0
TANK GAS 10000		1	0.4	0.6	0.1	0.2	0.2
VAN GAS 10000		1.3	4.0	5.2	0.9	1.6	2.2
VAN DSL 10000		1	0.2	0.3	0.0	0.0	0.0
TRAC. GAS NONCAL		1	0.3	0.4	0.1	0.1	0.1
TRAC. DSL NONCAL		3	1.2	1.5	0.0	0.0	0.0

		LOS ANGELES COUNTY			CRANKCASE			TOTAL HYDROCARBONS		
		EVAPORATIVE			HYDROCARBONS			HYDROCARBONS		
		HYDROCARBONS			HYDROCARBONS			HYDROCARBONS		
		N-FWY	EWFY	TOTAL	N-FWY	EWFY	TOTAL	N-FWY	EWFY	TOTAL
WINTER										
WEEK DAY	15.7	50.2	65.9	8.0	6.4	14.4	4	1.5	1.9	24.0
WEEK END	16.5	35.2	45.7	8.0	6.4	14.4	2	1.6	1.2	18.7
SPRING										
WEEK DAY	17.2	56.3	75.4	8.0	6.4	14.4	4	1.6	2.0	25.5
WEEK END	11.5	42.5	54.0	8.0	6.4	14.4	2	1.2	1.4	19.7
SUMMER										
WEEK DAY	16.8	57.8	74.6	8.0	6.4	14.4	4	1.7	2.1	25.1
WEEK END	11.4	42.2	53.6	8.0	6.4	14.4	2	1.2	1.4	19.6
FALL										
WEEK DAY	16.3	52.3	68.5	8.0	6.4	14.4	4	1.6	1.9	24.6
WEEK END	10.5	36.5	47.0	8.0	6.4	14.4	2	1.1	1.3	18.7
ANNUAL AVG.										
WEEK DAY	16.5	54.6	71.1	8.0	6.4	14.4	4	1.6	2.0	24.8
WEEK END	11.3	39.1	50.1	8.0	6.4	14.4	2	1.1	1.3	19.2
DAY	14.9	50.2	65.1	8.0	6.4	14.4	3	1.5	2.8	23.0
PICKUP GAS	6000	2.7	9.7	12.3	2.0	1.7	3.7	0	2	4.8
PICKUP GAS	8500	6.3	20.9	27.2	3.4	2.7	6.2	2	8	9.8
TRAC. GAS	10000	• 4	1.5	1.9	• 1	• 1	• 3	• 1	• 1	• 6
TRAC. DSL	10000	1.5	5.7	7.1	0.6	0.3	0.6	0.6	0.6	1.5
BUS GAS	10000	• 5	• 8	1.3	• 3	• 2	• 5	• 0	• 1	• 8
BUS DSL	10000	• 1	• 2	• 2	• 0	• 0	• 0	• 0	• 0	• 1
DUMP GAS	10000	• 2	• 6	• 7	• 1	• 1	• 2	• 0	• 0	• 1
DUMP DSL	10000	• 1	• 4	• 5	• 0	• 0	• 0	• 0	• 0	• 3
FLAT GAS	6000	• 2	• 5	• 7	• 2	• 1	• 3	• 0	• 0	• 1
FLAT GAS	8500	• 4	1.2	1.6	• 3	• 2	• 5	• 1	• 1	• 3
FLAT GAS	10000	• 8	2.5	3.3	• 6	• 5	• 6	• 1	• 1	• 7
FLAT. DSL	10000	• 1	• 2	• 2	• 0	• 0	• 0	• 0	• 0	• 1
TANK GAS	10000	• 1	• 3	• 4	• 4	• 3	• 1	• 0	• 0	• 1
TANK GAS	10000	• 1	• 4	• 5	• 0	• 0	• 1	• 0	• 0	• 1
VAN GAS	6000	• 4	• 4	• 6	• 1	• 2	• 2	• 0	• 0	• 2
VAN GAS	8500	• 3	1.0	1.2	• 1	• 1	• 2	• 0	• 0	• 1
VAN GAS	10000	• 9	2.8	3.7	• 6	• 5	• 6	• 1	• 1	• 5
VAN DSL	10000	• 1	• 2	• 2	• 0	• 0	• 0	• 0	• 0	• 1
TRAC GAS	NONCAL	• 1	• 2	• 3	• 0	• 0	• 1	• 0	• 0	• 1
TRAC. DSL	NONCAL	• 2	• 6	1.9	0.6	0.3	0.9	0.3	0.2	0.6

		ORANGE COUNTY			EVAPORATIVE			CRANKCASE			TOTAL HYDROCARBONS			
		HYDROCARBONS			HYDROCARBONS			HYDROCARBONS			HYDROCARBONS			
		N- EWY	F _W Y	TOTAL	N- EWY	F _W Y	TOTAL	N- EWY	F _W Y	TOTAL	N- EWY	F _W Y	TOTAL	
WINTER	DAY	4.3	12.6	16.9	2.4	1.6	4.0	0.1	0.4	0.5	6.7	14.6	21.4	
WEEK	END	2.9	10.4	13.3	2.4	1.6	4.0	0.1	0.3	0.4	5.3	12.3	17.6	
SPRING	WEEK	DAY	4.7	15.0	19.6	2.4	1.6	4.0	0.1	0.4	0.5	7.1	17.0	24.1
	WEEK	END	3.2	13.0	16.2	2.4	1.6	4.0	0.1	0.4	0.4	5.6	15.6	21.6
SUMMER	WEEK	DAY	4.5	15.4	20.0	2.4	1.6	4.0	0.1	0.5	0.6	7.0	17.5	24.5
	WEEK	END	3.1	13.1	16.2	2.4	1.6	4.0	0.1	0.4	0.4	5.6	15.6	20.6
FALL	WEEK	DAY	4.4	13.8	18.2	2.4	1.6	4.0	0.1	0.4	0.5	6.9	15.6	22.7
	WEEK	END	2.9	11.5	14.4	2.4	1.6	4.0	0.1	0.3	0.4	5.3	13.4	18.8
ANNUAL AVG.														
WEEK	DAY	4.5	14.2	18.7	2.4	1.6	4.0	0.1	0.4	0.5	6.9	16.2	23.2	
WEEK	END	3.0	12.0	15.0	2.4	1.6	4.0	0.1	0.3	0.4	5.5	13.9	19.4	
	DAY	4.1	13.6	17.6	2.4	1.6	4.0	0.1	0.4	0.5	6.5	15.6	22.1	
PICKUP	GAS	6000	.8	2.6	3.4	.6	.4	1.0	.2	.1	.1	1.4	3.1	4.5
PICKUP	GAS	8500	1.7	5.7	7.4	1.8	.7	1.7	.0	.2	.3	2.8	6.6	9.4
TRAC.	GAS	10000	.1	.4	.5	.0	.0	.1	.0	.0	.0	.2	.5	.6
TRAC.	DSL	10000	.4	1.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	1.6	2.0
BUS	GAS	10000	.1	.2	.4	.1	.1	.1	.0	.0	.0	.2	.3	.5
BUS	DSL	10000	.0	.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
DUMP	GAS	10000	.0	.1	.2	.0	.0	.1	.0	.0	.0	.2	.2	.3
DUMP	DSL	10000	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	.1	.1	.1
FLAT.	GAS	6000	.0	.1	.2	.1	.0	.1	.0	.0	.0	.1	.2	.3
FLAT.	DSL	10000	.0	.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
TANK	GAS	10000	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1
TANK	DSL	10000	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
FLAT.	GAS	10000	.2	.6	.9	.2	.1	.3	.0	.0	.0	.4	.6	1.2
FLAT.	DSL	10000	.0	.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
VAN	GAS	6000	.0	.1	.2	0.0	0.0	0.0	0.0	0.0	0.0	.1	.2	.3
VAN	GAS	8500	.1	.3	.3	.0	.0	.0	0.0	0.0	0.0	.1	.2	.4
VAN	GAS	10000	.2	.7	.9	.2	.1	.3	.0	.0	.0	.4	.6	1.2
VAN	DSL	10000	.0	.0	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
TRAC.	GAS	NONCAL	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1
TRAC.	DSL	NONCAL	.1	.2	.3	0.0	0.0	0.0	0.0	0.0	0.0	.1	.2	.3

		RIVERSIDE COUNTY		CRANKCASE		TOTAL		HYDROCARBONS		TOTAL	
		EVAPORATIVE		HYDROCARBONS		HYDROCARBONS		N-EVY		HYDROCARBONS	
		N-EVY	EVY	TOTAL	N-EVY	EVY	TOTAL	N-EVY	EVY	TOTAL	N-EVY
WINTER											
WEEK DAY	1.1	2.4	3.5	1.4	1.0	2.4	0	.1	.1	2.5	3.5
WEEK END	.9	2.5	3.5	1.4	1.1	2.4	.4	.1	.1	2.3	3.6
SPRING											
WEEK DAY	1.0	2.0	3.0	4.3	1.4	1.0	2.4	0	.1	2.6	4.1
WEEK END	1.0	3.4	4.4	1.4	1.0	2.4	.0	.1	.1	2.4	4.5
SUMMER											
WEEK DAY	1.0	3.3	4.3	1.4	1.0	2.4	0	.1	.1	2.4	4.4
WEEK END	.8	3.4	4.2	1.4	1.0	2.4	.6	.1	.1	2.2	4.5
FALL											
WEEK DAY	1.1	2.7	3.7	1.4	1.0	2.4	0	.1	.1	2.5	3.8
WEEK END	.8	2.9	3.8	1.4	1.0	2.4	.0	.1	.1	2.2	4.0
ANNUAL AVG.											
WEEK DAY	1.1	2.9	3.9	1.4	1.0	2.4	0	.1	.1	2.5	3.9
WEEK END	.9	3.1	4.0	1.4	1.0	2.4	.0	.1	.1	2.3	4.1
DAY	1.0	2.9	3.9	1.4	1.0	2.4	0	.1	.1	2.4	4.0
PICKUP GAS 6000	.2	.6	.8	.3	.2	.4	.3	0	0	.5	.8
PICKUP GAS 8500	.4	1.2	1.7	.8	.6	1.3	.9	0	0	1.2	1.9
TRAC. GAS 10000	.0	.1	.1	.0	.0	0	0	0	0	.1	.2
TRAC. DSL 10000	.1	.3	.4	.0	.0	0	0	0	0	.1	.4
BUS GAS 10000	.0	0	0	.1	0	0	0	0	0	.1	.2
BUS DSL 10000	.0	0	0	.2	0	0	0	0	0	0	0
DUMP GAS 10000	.0	0	0	.2	0	0	0	0	0	0	0
DUMP DSL 10000	.0	0	0	.0	0	0	0	0	0	0	0
FLAT. GAS 6000	.0	0	0	.0	0	0	0	0	0	0	0
FLAT. GAS 8500	.0	0	0	.1	0	0	0	0	0	0	0
FLAT. GAS 10000	.1	0	0	.2	0	0	0	0	0	0	0
FLAT. DSL 10000	.0	0	0	.0	0	0	0	0	0	0	0
TANK GAS 10000	.0	0	0	.0	0	0	0	0	0	0	0
TANK DSL 10000	.0	0	0	.0	0	0	0	0	0	0	0
VAN GAS 6000	.0	0	0	.0	0	0	0	0	0	0	0
VAN GAS 8500	.0	0	0	.1	0	0	0	0	0	0	0
VAN GAS 10000	.1	0	0	.2	0	0	0	0	0	0	0
VAN DSL 10000	.0	0	0	.0	0	0	0	0	0	0	0
TRAC. GAS NDNCAL	.0	0	0	.0	0	0	0	0	0	0	0
TRAC. DSL NDNCAL	.0	0	0	.1	0	0	0	0	0	0	0

SAN BERNARDINO COUNTY										TOTAL		
EXHAUST CRANKCASE										HYDROCARBONS		
EVAPORATIVE										HYDROCARBONS		
										N-EFWY	FHWY	TOTAL
										N-EFWY	FHWY	TOTAL
WINTER												
WEEK	DAY	1.7	5.8	7.5	.6	.6	1.2	.0	.2	2.4	6.6	9.0
WEEK	END	1.4	5.3	6.7	.6	.6	1.2	.0	.2	2.1	6.0	6.0
SPRING												
WEEK	DAY	2.0	6.9	8.9	.6	.6	1.2	.0	.2	2.6	7.7	10.3
WEEK	END	1.5	6.5	8.1	.6	.6	1.2	.0	.2	2.2	7.2	9.4
SUMMER												
WEEK	DAY	1.6	7.0	8.6	.6	.6	1.2	.0	.3	2.3	7.8	10.1
WEEK	END	1.3	6.3	7.6	.6	.6	1.2	.0	.2	1.9	7.1	8.0
FALL												
WEEK	DAY	1.7	6.1	7.5	.6	.6	1.2	.0	.2	2.4	6.9	9.3
WEEK	END	1.3	5.6	6.9	.6	.6	1.2	.0	.2	2.0	6.7	8.7
ANNUAL	Avg.											
WEEK	DAY	1.8	6.4	8.2	.6	.6	1.2	.0	.2	2.4	7.2	9.6
WEEK	END	1.4	5.9	7.3	.6	.6	1.2	.0	.2	2.0	6.7	8.3
DAY		1.7	6.3	7.9	.6	.6	1.2	.0	.2	2.3	7.1	9.4
PICKUP	GAS	6000	.3	1.2	1.5	.2	.2	.4	.0	.0	.5	1.4
PICKUP	GAS	8500	.7	2.7	3.4	.2	.2	.5	.0	.1	1.0	3.0
TRAC.	GAS	10000	.0	.2	.2	0	.0	.0	.0	.0	.2	.3
TRAC.	DSL	10000	.2	.7	.9	0.0	0.0	0.0	0.0	0.0	.2	.7
BUS	GAS	10000	.1	.1	.2	0.0	0.0	0.0	0.0	0.0	.1	.2
BUS	DSL	10000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.0
DUMP	GAS	10000	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	.0	.1
DUMP	DSL	10000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.1
FLAT.	GAS	6000	.0	.1	.1	0.0	0.0	0.0	0.0	0.0	.1	.1
FLAT.	DSL	10000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.0
TANK	GAS	8500	.0	.1	.2	0	0	0.0	0.0	0.0	.1	.2
TANK	DSL	10000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.1
VAN	GAS	6000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.1
VAN	GAS	8500	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.1
VAN	GAS	10000	.0	.1	.3	0.0	0.0	0.0	0.0	0.0	.1	.2
VAN	DSL	10000	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.0
TRAC.	GAS	NONCAL	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.0
TRAC.	DSL	NONCAL	.0	.0	.0	0.0	0.0	0.0	0.0	0.0	.0	.1

		SOUTH COAST AIR BASIN			CARBON MONOXIDE			NITROGEN OXIDES			SULFUR DIOXIDE			PARTICULATES		
		N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY
WINTER																
WEEK DAY	35.7	82.7	118.4	230.6	663.0	693.5	47.2	248.1	295.4	3.9	18.2	22.1	4.3	19.5	23.8	
WEEK END	28.4	64.5	92.9	155.6	482.2	637.2	38.7	211.3	249.7	3.3	15.3	18.5	3.5	16.0	19.4	
SPRING																
WEEK DAY	37.9	95.1	133.0	243.6	748.7	992.2	48.9	275.0	323.9	4.6	20.1	24.1	4.4	21.5	25.9	
WEEK END	29.9	76.7	106.6	163.6	570.6	734.2	40.6	244.7	284.8	3.4	17.6	20.9	3.6	18.4	22.0	
SUMMER																
WEEK DAY	36.9	95.6	132.5	235.7	761.2	996.9	48.3	286.4	334.7	4.0	21.1	25.1	4.4	22.5	27.0	
WEEK END	29.3	76.4	105.7	159.4	574.2	733.6	40.1	252.2	292.3	3.4	18.3	21.7	3.6	19.2	22.8	
FALL																
WEEK DAY	36.3	86.7	123.0	233.1	689.6	922.7	48.0	259.5	337.5	4.0	19.1	23.1	4.4	20.4	24.6	
WEEK END	28.2	67.8	96.0	150.4	504.7	655.1	37.9	222.1	263.0	3.2	16.1	19.3	3.4	16.9	20.3	
ANNUAL AVG.																
WEEK DAY	36.7	90.0	126.7	235.7	715.6	951.3	48.1	267.3	315.4	4.0	19.7	23.6	4.4	21.0	25.4	
WEEK END	29.0	71.3	100.3	157.1	532.9	690.0	39.2	232.5	271.7	3.3	16.8	24.1	3.5	17.6	21.1	
DAY	34.5	84.7	119.2	213.3	662.4	876.7	45.6	257.3	302.9	3.8	18.8	22.6	4.2	20.0	24.2	
PICKUP GAS	6000	7.1	16.8	23.9	37.8	110.2	148.1	5.6	37.5	43.6	3	1.2	1.4	4	1.9	2.4
PICKUP GAS	8500	14.8	35.9	50.6	102.6	345.6	448.2	9.8	51.3	61.1	5	2.1	2.6	9	4.3	5.2
TRAC.	GAS 10000	.8	2.5	3.3	6.3	23.4	29.7	.6	3.3	3.9	0	1	2	1	4	.5
TRAC.	DSL 10000	2.2	8.3	10.5	9.5	20.8	30.3	17.9	105.6	123.5	2.1	11.0	13.1	1.6	8.7	10.3
BUS	GAS 10000	1.2	1.6	2.7	7.7	12.1	19.8	.6	1.6	2.2	0	1	1	2	2	2
BUS	DSL 10000	.1	.3	.3	.3	.7	1.0	.6	3.2	3.8	0	1	1	0	2	2
DUMP	GAS 10000	.5	1.0	1.5	2.6	7.9	10.4	.2	1.0	1.2	0	0	0	0	.1	.1
DUMP	DSL 10000	.2	.6	.7	.6	2.6	2.4	1.5	6.8	8.3	.2	.7	.9	1	.5	.6
FLAT.	GAS 6000	.5	1.0	1.5	2.4	6.6	9.0	.3	1.9	2.2	0	1	1	0	.1	.1
FLAT.	GAS 8500	1.0	2.2	3.2	6.1	16.5	24.6	.5	2.5	3.1	0	1	1	1	.3	.3
FLAT.	GAS 10000	2.1	4.4	6.5	12.3	36.1	50.4	1.1	5.2	6.2	.1	.2	.3	.1	.6	.7
FLAT.	DSL 10000	.1	.2	.3	.3	.6	1.0	.6	2.8	3.3	.1	.3	.4	0	.2	.2
TANK	GAS 10000	.2	.6	.8	1.5	5.4	6.8	.1	.8	.9	.6	C	0	0	.1	.1
TANK	DSL 10000	.1	.5	.7	.6	1.3	1.9	1.2	6.7	7.9	.1	.7	.8	1	.4	.5
VAN	GAS 6000	.3	.8	1.1	1.7	5.1	6.8	.3	1.7	2.0	0	1	1	0	.1	.1
VAN	GAS 8500	.6	1.6	2.2	4.4	15.5	19.9	.4	2.3	2.7	.1	1	1	0	.2	.2
VAN	GAS 10000	2.2	4.8	7.1	14.1	43.9	58.0	1.3	6.3	7.6	.1	.3	.3	1	.6	.7
VAN	DSL 10000	.1	.2	.3	.3	.6	1.0	.6	2.8	3.4	.1	.3	.4	0	.2	.2
TRAC.	GAS NONCAL	.1	.4	.5	.8	3.3	4.1	.1	4	5	.2	.3	.3	0	.1	.1
TRAC.	DSL NONCAL	.3	1.2	1.5	1.1	2.3	3.4	2.4	13.8	16.1	.3	1.4	1.6	.2	1.1	1.3

		LOS ANGELES COUNTY			PARTICULATES		
		HYDROCARBONS	CARBON MONOXIDE	NITROGEN OXIDES	SULFUR DIOXIDE	N-FWY	FWY TOTAL
		N-FWY	FWY TOTAL	N-FWY	FWY TOTAL	N-FWY	FWY TOTAL
WINTER							
WEEK DAY	24.0	58.1	82.1	159.6	470.5	630.0	31.0 171.6 202.6
WEEK END	18.7	42.6	61.3	103.9	317.7	421.6	24.9 139.0 163.5
SPRING							
WEEK DAY	25.5	66.3	91.8	167.7	527.0	694.7	31.9 188.5 220.3
WEEK END	19.7	50.0	69.7	109.6	370.7	480.2	25.7 159.0 184.7
SUMMER							
WEEK DAY	25.1	65.9	91.1	165.8	529.2	695.0	32.3 193.6 225.9
WEEK END	19.6	49.8	69.4	109.4	372.9	482.3	26.4 163.7 190.2
FALL							
ANNUAL AVG.							
WEEK DAY	24.6	60.2	84.9	162.5	483.7	646.2	31.7 177.3 209.0
WEEK END	18.7	44.0	62.7	102.2	325.9	428.1	24.7 143.4 168.1
DAY	23.2	58.1	81.3	147.4	458.1	605.5	29.9 173.7 203.7
PICKUP GAS	6000	4.8	11.5	16.3	25.9	76.3	102.2 3.7 25.2
PICKUP GAS	8500	9.8	24.4	34.3	70.7	236.9	307.7 6.4 34.7
TRAC. GAS	10000	•6	1.7	2.2	4.4	15.9	20.2 •4 2.2
DSL 10000	1.5	5.7	7.1	6.8	14.6	21.4	11.8 71.3 82.7
BUS GAS 10000	.8	1.1	1.9	5.4	8.3	13.7	•4 1.1 1.4
BUS DSL 10000	•1	•2	•2	•2	•5	•7	•4 2.2 2.6
DUMP GAS 10000	•3	•7	1.0	1.8	5.5	7.3	•1 0.7 0.8
DUMP DSL 10000	•1	•4	•5	•6	1.2	1.7	1.0 4.7 5.7
FLAT. GAS 6000	•3	•7	1.6	1.7	4.7	6.3	•2 1.3 1.5
FLAT. GAS 8500	•7	1.5	2.2	4.2	13.0	17.2	•4 1.7 2.1
FLAT. GAS 10000	1.4	3.1	4.5	8.5	26.6	35.4	•7 3.6 4.3
FLAT. DSL 10000	•1	•2	•2	•2	•5	•7	•4 2.2 2.6
TANK GAS 10000	•1	•4	•5	4.6	3.6	4.6	•1 0.5 0.6
TANK DSL 10000	•1	•4	•5	4	9	14	•5 5.2 5.3
VAN GAS 6000	•2	•5	•7	1.2	3.5	4.7	•2 1.2 1.3
VAN GAS 8500	•4	1.1	1.5	3.1	10.6	13.6	•3 1.6 1.8
VAN GAS 10000	2.5	3.4	5.0	9.8	30.9	40.7	•9 4.3 5.2
VAN DSL 10000	•1	•2	•2	•2	•5	•7	•4 1.9 2.3
TRAC GAS NONCAL	•1	•3	•4	•6	2.2	2.6	•3 0.3 0.3
TRAC DSL NONCAL	•2	•6	1.6	•6	1.6	2.4	1.6 9.2 10.6

		HYDROCARBONS			CARBON MONOXIDE			NITROGEN OXIDES			SULFUR DIOXIDE			PARTICULATES		
		N-FWY	Fwy	Total	N-FWY	Fwy	Total	N-FWY	Fwy	Total	N-FWY	Fwy	Total	N-FWY	Fwy	Total
WINTER																
WEEK DAY	6.7	14.6	21.4	42.6	116.9	159.5	9.9	46.0	55.9	•8	3.4	4.2	•9	3.6	4.5	
WEEK END	5.3	12.3	17.6	28.3	93.7	122.1	8.0	41.5	49.5	•7	3.0	3.7	•7	3.1	3.8	
SPRING																
WEEK DAY	7.1	17.6	24.1	44.8	133.6	178.4	10.2	51.6	61.8	•6	3.8	4.6	•9	4.0	4.9	
WEEK END	5.6	15.0	20.6	29.9	113.4	143.3	8.2	49.3	57.5	•7	3.6	4.2	•7	3.7	4.4	
SUMMER																
WEEK DAY	7.0	17.5	24.5	44.0	139.4	183.4	10.3	55.2	65.5	•8	4.1	4.9	•9	4.3	5.2	
WEEK END	5.6	15.0	20.6	29.6	115.1	144.7	8.4	51.2	59.6	•7	3.7	4.4	•7	3.9	4.6	
FALL																
WEEK DAY	6.9	15.6	22.7	43.3	125.7	169.3	10.1	49.7	59.8	•8	3.7	4.5	•9	3.9	4.8	
WEEK END	5.3	13.4	16.8	27.7	102.2	130.0	7.9	45.6	53.5	•7	3.3	4.0	•7	3.5	4.2	
ANNUAL AVG.																
WEEK DAY	6.9	16.2	23.2	43.7	128.9	172.6	10.1	50.6	60.7	•6	3.7	4.5	•9	3.9	4.8	
WEEK END	5.5	13.9	19.4	28.9	106.1	135.0	8.1	46.9	55.0	•7	3.4	4.1	•7	3.6	4.3	
DAY	6.5	15.6	22.1	39.4	122.4	161.8	9.5	49.6	59.1	•8	3.6	4.4	•8	3.8	4.7	
PICKUP GAS	6000	1.4	3.1	4.5	7.1	20.3	27.3	1.1	7.2	8.3	•1	•2	•3	•1	•4	•5
PICKUP GAS	8500	2.8	6.6	9.4	19.0	64.4	83.4	2.6	9.8	11.6	•1	•4	•5	•2	•8	•9
TRAC. GAS	10000	•2	•5	•6	1.2	4.5	5.7	•1	•7	•8	•0	•0	•0	•1	•1	•1
TRAC. DSL	10000	•4	1.6	2.0	1.7	3.6	5.5	3.8	20.7	24.5	•4	2.2	2.6	•3	1.7	2.0
BUS GAS	10000	•2	•3	•5	1.4	2.3	3.7	•1	•3	•4	•0	•0	•0	•0	•0	•0
BUS DSL	10000	•0	0	0	•1	•1	•2	•1	•6	•7	•0	•0	•0	•0	•0	•0
DUMP GAS	10000	•1	•2	•3	•5	1.4	1.9	•0	•2	•2	•0	•6	•6	•0	•0	•0
DUMP DSL	10000	•0	•1	•1	•1	•3	•4	•3	1.2	1.6	•1	•1	•2	•0	•1	•1
FLAT. GAS	6000	•1	•2	•3	•4	1.1	1.1	•1	•3	•4	•0	•0	•0	•0	•0	•0
FLAT. GAS	8500	•2	•4	•6	1.1	3.3	4.4	•1	•5	•6	•0	•0	•0	•0	•0	•0
FLAT. GAS	10000	•4	•8	1.2	2.3	6.8	9.1	•2	•9	1.2	•6	•6	•6	•1	•1	•1
FLAT. DSL	10000	•0	•0	•1	•1	•1	•2	•1	•1	•5	•6	•6	•6	•1	•1	•1
TANK GAS	10000	•2	•1	•1	•3	1.0	1.3	•3	•1	•2	•0	•0	•0	•1	•1	•1
TANK DSL	10000	•0	•1	•1	•1	•2	•4	•2	•1	•3	•1	•6	•6	•1	•2	•1
VAN GAS	6000	•1	•1	•2	•3	•4	•3	•9	1.3	•1	•3	•4	•4	•1	•2	•1
VAN GAS	8500	•1	•1	•3	•4	•8	2.9	3.7	•1	•4	•5	•6	•6	•0	•0	•0
VAN GAS	10000	•4	•8	1.2	2.6	7.8	10.4	•3	1.1	1.4	•0	•0	•0	•1	•1	•1
VAN DSL	10000	•0	•0	•1	•1	•1	•2	•1	•1	•5	•6	•6	•6	•1	•1	•1
VAN GAS NONCAL	•2	•1	•1	•2	•3	•4	•6	•8	•6	•1	•1	•0	•0	•0	•0	•0
TRAC. GAS NONCAL	•1	•2	•3	•2	•3	•4	•4	•6	•5	•7	3.2	•1	•3	•2	•3	•3

		RIVERSIDE COUNTY			NITROGEN OXIDES			SULFUR DIOXIDE			PARTICULATES			
		CARBON MONOXIDE		N-FWY	FWY TOTAL	N-FWY		FWY TOTAL	N-FWY		FWY TOTAL	N-FWY FWY TOTAL		
WINTER		WEEK DAY	2.5	6.0	10.9	22.0	32.8	2.7	9.1	11.6	2	7	9	
WEEK END		WEEK END	2.3	3.6	5.9	9.0	23.0	32.0	2.5	9.9	12.4	2	7	9
SPRING		WEEK DAY	2.6	4.1	6.8	11.9	26.7	38.6	2.9	10.9	13.7	2	8	10
WEEK END		WEEK END	2.4	4.5	6.9	9.5	29.7	39.2	2.6	12.6	15.1	2	8	11
SUMMER		WEEK DAY	2.4	4.4	6.8	9.7	29.7	39.4	2.4	12.4	14.7	2	9	11
WEEK END		WEEK END	2.2	4.5	6.7	7.9	30.0	37.8	2.2	13.0	15.2	2	9	11
FALL		ANNUAL AVG.												
WEEK DAY		WEEK DAY	2.5	3.6	6.2	10.4	24.3	34.7	2.6	10.1	12.7	2	7	9
WEEK END		WEEK END	2.2	4.0	6.3	8.0	26.3	34.3	2.2	11.4	13.7	2	6	8
DAY		DAY	2.4	4.0	6.4	8.6	27.2	35.8	2.4	11.7	14.1	2	6	9
PICKUP GAS		PICKUP GAS	6000	.5	.8	1.2	1.9	4.3	6.2	3	1.6	1.9	.6	.1
PICKUP GAS		PICKUP GAS	8500	1.2	1.9	3.1	4.9	14.6	19.0	6	2.2	2.6	.6	.2
TRAC.		GAS	10000	0	.1	.2	.3	1.0	1.3	0	.1	.2	.0	.0
TRAC.		DSL	10000	1	1.3	.4	.6	1.1	1.0	4.6	5.5	.1	.5	.5
BUS		GAS	10000	.1	.1	.2	.3	.5	.8	.1	.1	.0	.0	.0
BUS		DSL	10000	0	.6	.9	.6	.9	.0	.0	.1	.2	.0	.0
DUMP		GAS	10000	0	.6	.1	.1	.3	.4	.6	.0	.0	.0	.0
DUMP		DSL	10000	0	.6	.0	.0	.0	.0	.1	.3	.0	.0	.0
FLAT.		GAS	6000	0	.6	.0	.0	.0	.1	.1	.3	.0	.0	.0
FLAT.		GAS	8500	0	.6	.1	.1	.2	.3	.0	.1	.0	.0	.0
FLAT.		DSL	10000	1	.1	.2	.3	.7	.9	.0	.1	.0	.0	.0
FLAT.		GAS	10000	1	.2	.3	.6	1.4	1.9	.1	.2	.2	.0	.0
FLAT.		DSL	10000	0	.6	.0	.0	.0	.0	.4	.4	.0	.0	.0
TANK		GAS	10000	0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
TANK		DSL	10000	0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
VAN		GAS	6000	0	.6	.0	.1	.2	.3	.0	.1	.1	.0	.0
VAN		GAS	8500	0	.6	.1	.2	.6	.8	.0	.1	.1	.0	.0
VAN		GAS	10000	1	.2	.3	.7	1.6	2.2	.1	.2	.3	.0	.0
VAN		DSL	10000	0	.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
TRAC.		GAS	NONCAL	0	.6	.0	.0	.0	.1	.2	.0	.0	.0	.0
TRAC.		DSL	NONCAL	0	.6	.0	.0	.0	.1	.4	.1	.6	.1	.1

		SAN BERNARDINO COUNTY			PARTICULATES		
		CARBON MONOXIDE	NITROGEN OXIDES	SULFUR DIOXIDE	N-FWY	FWY TOTAL	N-FWY FWY TOTAL
		N-FWY	FWY	TOTAL	N-FWY	FWY TOTAL	N-FWY FWY TOTAL
WINTER							
WEEK DAY	2.4	6.6	9.0	17.6	53.5	71.1	3.7
WEEK END	2.1	6.0	8.0	13.9	47.7	61.6	3.4
SPRING							
WEEK DAY	2.6	7.7	10.3	19.1	61.4	80.5	3.9
WEEK END	2.2	7.2	9.4	14.6	56.9	71.5	3.5
SUMMER							
WEEK DAY	2.3	7.8	10.1	16.2	62.9	79.0	3.4
WEEK END	1.9	7.1	9.0	12.5	56.4	68.9	3.1
FALL							
WEEK DAY	2.4	6.9	9.3	17.6	55.9	72.9	3.6
WEEK END	1.9	6.3	8.3	12.5	50.2	62.7	3.1
ANNUAL AVG.							
WEEK DAY	2.4	7.2	9.6	17.5	58.4	75.9	3.7
WEEK END	2.0	6.7	8.7	13.4	52.8	66.2	3.3
DAY	2.3	7.1	9.4	16.3	56.8	73.1	3.6
PICKUP GAS	6000	.5	1.4	1.9	2.9	9.4	.4
PICKUP GAS	8500	1.0	3.0	3.9	7.9	30.2	.8
TRAC.	GAS 10000	.1	.2	.3	.5	2.0	.5
TRAC.	DSL 10000	.2	.7	.9	.7	1.6	.3
BUS	GAS 10000	.1	.1	.2	.6	1.1	.0
BUS	DSL 10000	.0	.0	.0	.0	.1	.0
DUMP	GAS 10000	.0	.1	.1	.2	.7	.0
DUMP	DSL 10000	.0	.0	.1	.1	.6	.0
FLAT.	GAS 6000	.0	.1	.1	.2	.5	.0
FLAT.	GAS 8500	.1	.2	.2	.5	.7	.0
FLAT.	GAS 10000	.1	.3	.5	.5	1.5	.0
FLAT.	DSL 10000	.0	.0	.0	.0	.0	.0
TANK	GAS 10000	.0	.0	.1	.1	.5	.0
TANK	DSL 10000	.0	.0	.1	.1	.5	.0
VAN	GAS 6000	.0	.1	.1	.1	.4	.0
VAN	GAS 8500	.0	.1	.2	.3	1.4	.7
VAN	GAS 10000	.1	.4	.5	1.1	3.6	4.7
VAN	DSL 10000	.0	.0	.0	.0	.0	.0
TRAC.	GAS NENCAL	.0	.0	.0	.1	.3	.0
TRAC.	DSL NENCAL	.0	.1	.1	.2	.3	.2

SOUTH COAST AIR BASIN
NON-FREEWAY
FREEWAY
VMT VMT

				TOTAL
WINTER				VMT
WEEK DAY	2.9834E+06	1.3042E+07	1.6022E+07	
WEEK END	2.3634E+06	1.0811E+07	1.3174E+07	
SPRING				
WEEK DAY	3.0738E+06	1.4366E+07	1.7442E+07	
WEEK END	2.4303E+06	1.2453E+07	1.4864E+07	
SUMMER				
WEEK DAY	3.0638E+06	1.5087E+07	1.8151E+07	
WEEK END	2.4545E+06	1.2970E+07	1.5424E+07	
FALL				
WEEK DAY	3.0388E+06	1.3681E+07	1.6723E+07	
WEEK END	2.3188E+06	1.1421E+07	1.3743E+07	
ANNUAL AVG.				
WEEK DAY	3.0399E+06	1.4045E+07	1.7085E+07	
WEEK END	2.3917E+06	1.1914E+07	1.4305E+07	
DAY	2.8547E+06	1.3436E+07	1.6291E+07	
PICKUP GAS	6000	7.0671E+05	3.2573E+06	3.9664E+06
PICKUP GAS	8500	7.5721E+05	3.4739E+06	4.2312E+06
TRAC. GAS	10000	4.4909E+04	2.2776E+05	2.7226E+05
DSL	10000	6.7253E+05	3.5686E+06	4.2411E+06
TRAC. GAS	10000	4.9074E+04	1.1060E+05	1.5967E+05
DSL	10000	2.3762E+04	1.0884E+05	1.3261E+05
BUS	10000	1.7056E+04	7.0978E+04	8.8334E+04
DUMP GAS	10000	5.5571E+04	2.3209E+05	2.8766E+05
DUMP DSL	10000	5.5571E+04	2.3209E+05	2.8766E+05
FLAT. GAS	6000	3.9843E+04	1.6792E+05	2.0776E+05
FLAT. GAS	8500	4.2982E+04	1.7690E+05	2.1966E+05
FLAT. GAS	10000	4.3947E+04	2.2636E+05	2.721E+05
FLAT. DSL	10000	2.2046E+04	9.4532E+04	1.1658E+05
TANK GAS	10000	1.0576E+04	5.2342E+04	6.2917E+04
TANK DSL	10000	4.3947E+04	3.6082E+05	4.4678E+05
VAN GAS	6000	3.1702E+04	1.5000E+05	1.8170E+05
VAN GAS	8500	3.2954E+04	1.5621E+05	1.8916E+05
VAN GAS	10000	1.0211E+05	4.3147E+05	5.3358E+05
VAN DSL	10000	2.2046E+04	9.4532E+04	1.1658E+05
TRAC. GAS NCNCAL	5.02191E+03	2.8943E+04	3.4163E+04	
TRAC. DSL NCNCAL	8.6543E+04	4.4564E+05	5.3235E+05	

		LOS ANGELES COUNTY		TOTAL
		NON-FREEWAY	FREEWAY	VMT
WINTER		VMT	VMT	VMT
WEEK	DAY	1.9786E+06	9.0865E+06	1.1065E+07
WEEK	END	1.5315E+06	7.1276E+06	8.6592E+06
SPRING				
WEEK	DAY	2.0282E+06	9.9231E+06	1.1951E+07
WEEK	END	1.5748E+06	6.0931E+06	9.6679E+06
SUMMER				
WEEK	DAY	2.0677E+06	1.0263E+07	1.2350E+07
WEEK	END	1.6301E+06	8.4253E+06	1.0055E+07
FALL				
WEEK	DAY	2.0311E+06	9.4169E+06	1.1448E+07
WEEK	END	1.5240E+06	7.3786E+06	8.9026E+06
ANNUAL AVG.				
WEEK	DAY	2.0264E+06	9.6773E+06	1.1704E+07
WEEK	END	1.5651E+06	7.7562E+06	9.3213E+06
DAY		1.8946E+06	9.1284E+06	1.1923E+07
PICKUP	GAS	6600	4.6878E+05	2.2129E+06
PICKUP	GAS	8500	5.0089E+05	2.3631E+06
TRAC.	GAS	10000	2.9984E+04	1.5351E+05
TRAC.	DSL	10000	4.4890E+05	2.4053E+06
BUS	GAS	10000	3.2542E+04	7.5104E+04
BUS	DSL	10000	1.5721E+04	7.3922E+04
DUMP	GAS	10000	1.1338E+04	4.9284E+04
DUMP	DSL	10000	3.6906E+04	1.6121E+05
FLAT.	GAS	6000	2.6471E+04	1.1663E+05
FLAT.	GAS	6500	2.8549E+04	1.2285E+05
FLAT.	GAS	10000	5.7097E+04	2.5060E+05
FLAT.	DSL	10000	1.4641E+04	6.5649E+04
TANK	GAS	10000	7.0574E+03	3.5298E+04
TANK	DSL	10000	2.9342E+04	1.5260E+05
VAN	GAS	6000	2.0954E+04	1.0189E+05
VAN	GAS	6500	2.1779E+04	1.0612E+05
VAN	GAS	10000	6.7796E+04	2.9969E+05
VAN	DSL	10000	1.4641E+04	6.5649E+04
TRAC.	GAS	NDNCAL	3.4739E+03	1.9521E+04
TRAC.	DSL	NDNCAL	5.7746E+04	3.0050E+05

		NON-FREEWAY	FREEWAY	TOTAL
		VMT	VMT	VMT
WINTER				
WEEK DAY	6.0863E+05	2.3837E+06	2.9923E+06	
WEEK END	4.7334E+05	2.1166E+06	2.5900E+06	
SPRING				
WEEK DAY	6.2454E+05	2.6574E+06	3.2820E+06	
WEEK END	4.8673E+05	2.4945E+06	2.9812E+06	
SUMMER				
WEEK DAY	6.3383E+05	2.8670E+06	3.5008E+06	
WEEK END	5.1130E+05	2.6186E+06	3.1199E+06	
FALL				
WEEK DAY	6.2381E+05	2.5825E+06	3.2063E+06	
WEEK END	4.6965E+05	2.3313E+06	2.8369E+06	
ANNUAL AVG.				
WEEK DAY	6.2270E+05	2.6226E+06	3.2454E+06	
WEEK END	4.8275E+05	2.3903E+06	2.8730E+06	
DAY	5.8272E+05	2.5563E+06	3.1396E+06	
PICKUP GAS	6000	1.4428E+05	6.1562E+05	7.5990E+05
PICKUP GAS	8500	1.5416E+05	6.5657E+05	8.1073E+05
TRAC.	GAS 10000	9.2110E+03	4.4478E+04	5.3689E+04
TRAC.	DSL 10000	1.3791E+05	6.9696E+05	3.3487E+05
RUS.	GAS 10000	1.0611E+04	2.0921E+04	3.0931E+04
RUS.	DSL 10000	4.8384E+03	2.0605E+04	2.5444E+04
DUMP	GAS 10000	3.4869E+03	1.2910E+04	1.6396E+04
DUMP	DSL 10000	1.1349E+04	4.2171E+04	5.3523E+04
FLAT.	GAS 6000	8.1398E+03	3.0517E+04	3.8657E+04
FLAT.	GAS 8500	6.7794E+03	3.2166E+04	4.0945E+04
FLAT.	GAS 10000	1.7558E+04	6.5584E+04	8.3143E+04
FLAT.	DSL 10000	4.5025E+03	1.7195E+04	2.1688E+04
TANK.	GAS 10000	2.1682E+03	1.0206E+04	1.2375E+04
TANK.	DSL 10000	9.3137E+03	4.4183E+04	5.3197E+04
VAN	GAS 6000	6.4201E+03	2.8363E+04	3.4813E+04
VAN	GAS 8500	6.7043E+03	2.9533E+04	3.6238E+04
VAN	GAS 10000	2.0850E+04	7.3407E+04	9.9257E+04
VAN	DSL 10000	4.5025E+03	1.7285E+04	2.1688E+04
TRAC.	GAS NONCAL	1.0678E+03	5.6348E+03	6.7026E+03
TRAC.	DSL NONCAL	1.7741E+04	6.7446E+04	1.0479E+05

RIVERSIDE COUNTY
NON-FREEWAY **FREEWAY** **TOTAL**
VMT **VMT** **VMT**

WINTER		WEEK DAY	1.6230E+05	4.5483E+05	6.2713E+05
WEEK END		1.4920E+05	5.1066E+05	6.5989E+05	
SPRING					
		WEEK DAY	1.7314E+05	2.5020E+05	7.2334E+05
		WEEK END	1.5345E+05	6.4160E+05	7.9505E+05
SUMMER					
		WEEK DAY	1.4604E+05	6.3083E+05	7.7687E+05
		WEEK END	1.3217E+05	6.7021E+05	8.0239E+05
FALL					
		WEEK DAY	1.5624E+05	5.1768E+05	6.7393E+05
		WEEK END	1.3412E+05	5.3966E+05	7.2376E+05
ANNUAL AVE.					
		WEEK DAY	1.5943E+05	5.4089E+05	7.1032E+05
		WEEK END	1.4224E+05	6.0304E+05	7.4527E+05
		DAY	1.5422E+05	5.5864E+05	7.1316E+05
PICKUP	GAS	6000	3.9262E+04	1.3609E+05	1.7535E+05
PICKUP	GAS	8500	4.1931E+04	1.4515E+05	1.8708E+05
TRAC.	GAS	10000	2.3274E+03	9.7412E+03	1.2069E+04
TRAC.	DSL	10000	3.4929E+04	1.5246E+05	1.6739E+05
BUS	GAS	10600	2.6717E+03	4.6367E+03	7.3084E+03
BUS	DSL	10600	1.3143E+03	4.5642E+03	5.8785E+03
DUMP	GAS	10000	9.1272E+02	2.6574E+03	3.5701E+03
DUMP	DSL	10000	2.9937E+03	8.6954E+03	1.1689E+04
FLAT.	GAS	6000	2.1403E+03	6.2912E+03	8.4315E+03
FLAT.	GAS	8500	2.3133E+03	6.6215E+03	8.9348E+03
FLAT.	GAS	10000	4.6266E+03	1.3521DE+04	1.8136E+04
FLAT.	DSL	10600	1.1678E+03	3.5411E+03	4.7290E+03
TANK	GAS	10000	5.5018E+02	2.2324E+03	2.7825E+03
TANK	DSL	10000	2.2760E+03	9.6745E+03	1.1953E+04
VAN	GAS	6000	1.7654E+03	6.2679E+03	8.9330E+03
VAN	GAS	8500	1.8364E+03	6.5301E+03	8.3665E+03
VAN	GAS	10000	5.5106E+03	1.6162E+04	2.1673E+04
VAN	DSL	10000	1.1678E+03	3.5411L+03	4.7290E+03
TRAC.	GAS	NONCAL	2.7665E+02	1.2326E+03	1.5093E+03
TRAC.	DSL	NENCAL	4.5049E+03	1.9042E+04	2.3947E+04

SAN BERNARDINO COUNTY
NON-FREEWAY FREEWAY TOTAL VMT VMT

WINTER		DAY	2.3390E+05	1.1074E+06	1.3413E+06
WEEK	END		2.0932E+05	1.0560E+06	1.2653E+06
SPRING					
WEEK	DAY	2.4789E+05	1.2374E+06	1.4653E+06	
WEEK	END	2.1527E+05	1.2241E+06	1.4393E+06	
SUMMER					
WEEK	DAY	2.1616E+05	1.3069E+06	1.5231E+06	
WEEK	END	1.9085E+05	1.2557E+06	1.4466E+06	
FALL					
WEEK	DAY	2.2768E+05	1.1643E+06	1.3919E+06	
WEEK	END	1.9108E+05	1.1213E+06	1.3123E+06	
ANNUAL	Avg.				
	WEEK DAY	2.3141E+05	1.2040E+06	1.4354E+06	
	WEEK END	2.0163E+05	1.1643E+06	1.3659E+06	
	DAY	2.2290E+05	1.1926E+06	1.4155E+06	
PICKUP	GAS	6000	5.6386E+04	2.9264E+05	3.4902E+05
DICKUP	GAS	8500	6.0224E+04	3.1210E+05	3.7232E+05
TRAC.	GAS	10000	3.3861E+03	2.0934E+04	2.3420E+04
TRAC.	DSL	10000	5.0795E+04	3.1387E+05	3.6467E+05
BUS	GAS	10000	3.8498E+03	9.9379E+03	1.3788E+04
BUS	DSL	10000	1.8661E+03	9.7725E+03	1.1661E+04
DUMP	GAS	10000	1.3195E+03	6.1268E+03	7.4463E+03
DUMP	DSL	10000	4.3224E+03	2.0014E+04	2.4337E+04
FLAT.	GAS	6000	3.0920E+03	1.4479E+04	1.7571E+04
FLAT.	GAS	8500	3.3407E+03	1.5256E+04	1.8597E+04
FLAT.	GAS	10000	6.6613E+03	3.1118E+04	3.7800E+04
FLAT.	DSL	10000	1.7150E+03	6.15652E+03	9.6715E+03
TANK	GAS	10000	7.9983E+02	4.6047E+03	5.4045E+03
TANK	DSL	10000	3.3141E+03	1.9944E+04	2.3218E+04
VAN	GAS	6000	2.5326E+03	1.3474E+04	1.6006E+04
VAN	GAS	8500	2.6345E+03	1.4031E+04	1.6666E+04
VAN	GAS	10000	7.9537E+03	3.7210E+04	4.5164E+04
VAN	DSL	10000	1.7150E+03	8.1565E+03	9.8715E+03
TRAC	GAS	NONCAL	4.0070E+02	2.5547E+03	2.9854E+03
TRAC	DSL	NONCAL	6.5482E+03	3.9213E+04	4.5761E+04

KA70218. 10411177. TRWATSS C174 - 10/10/77.

10.03.11. NAME,142200,70218,ARLEDGE,K.

10.03.15.GE1.DF.

10.03.17.LIST,DF.

10.04.42.GET,TAPE20=ECMMUT1,TAPE21=VMT1.

10.04.49.GET,TAPE6.

10.04.52.LIST,TAPE6.

10.05.14.PURGE,TAPE6.

10.05.20.GE1.ECMMUT1.

10.05.33.CT,ECMMUT1,N=50.

10.05.53.CT,ECMMUT1,N=50,L=X.

10.05.55.LISTR,X.

10.06.19.LIST,X.

10.06.36.GET,REPORT,D=0.

10.06.46.RUNX,G,I=REPORT,D=0.

10.06.48.LGD

10.06.48.MIN FL - 30200 LOAD, 24400 EXECUTE.

10.06.54.STOP

10.06.59.LIST,TAPE6.

10.07.22.*RT,X.

10.07.25.RN,X=TAPE6.

10.07.40.GET,TAPE20=ECMMUT2,TAPE21=VMT2.

10.07.53.LGD.

10.07.53.MIN FL - 30200 LOAD, 24400 EXECUTE.

10.07.59.STOP

10.08.06.LIST,TAPE6.

10.08.26.RN,Y=TAPE6.

10.08.33.COLLECT,TAPE6,X,Y.

10.08.36.PACK,TAPE6.

10.08.39.REP,TAPE6.

10.08.48.PRINTF,TAPE6,R4,COURIER.

10.09.12.LTIN 30.267 SEC.

10.09.12.DISK 19.770 KPRUS.

10.09.12.PRNT 1 FILES.

10.09.12.PRNT 2002 EST LINES.

10.09.12.SYSW 25 SWAPS.

10.09.12.USSW 25 SWAPS.

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